

# The Equity of Adblockers

A commercial and legal analysis of why  
users block ads and what publishers can do about it

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## Abstract

Rates of adblocking on the browser level have grown rapidly in the last decade, cutting into publishers' revenue and casting doubt about the future of free content online. This study reviews two of the most controversial aspects of adblocking, whitelisting and circumvention techniques, from both a commercial and legal perspective. Equity theory provides a theoretical framework to analyze the reasons why users block ads and evaluate alternate methods for publishers to regain their lost revenue. Thirteen different studies on the demographics and motivations of adblock users are reviewed, along with two qualitative interviews from representative publishers. This research also includes a comparative legal analysis which describes and interprets the respective laws of the EU and the US that may have bearing within adblocker disputes. The results of this analysis show that while publishers may have legal options, the best course of action may be to embrace new models of advertising and revenue generation, several of which are presented and evaluated.

“If nothing else, the rise of adblocking has forced publishers to do plenty of soul-searching. Readers turned off by sluggish, subpar reading experiences have voted with their mice, and publishers have hopefully gotten the message.”

— Richard Bilton, Digiday<sup>1</sup>

## I. Introduction

In 2015, USD 21.8 billion of revenue was lost due to adblocking, accounting for 14% of the global ad spend for that year.<sup>2</sup> Today, over 200 million internet users worldwide (11%) use an adblocker on over 600 million devices (PageFair, 2017). That number is growing, with a 30% increase in the number of global adblock users from 2015 to 2016, a majority of which come from mobile adblocking (PageFair, 2017; Tune, 2016). At the same time, more publishers than ever depend on ad revenue to fund their digital properties as users decline to pay for content (HubSpot, 2016; KPMG, 2016).

This study explores the reasons why users choose to block ads and how publishers are dealing with the rise of adblockers. The experiences of both users and publishers are described in terms of equity theory, a theory of motivation that deals with the perceptions of fairness in social transactions. This is a conceptual study that draws from multiple data sources including an archival study, qualitative interviews, and a comparative legal analysis. The results focus on how publishers can seek to restore equity within an online media environment from both a legal and economic perspective.

## The Significance of Adblocking

Though the concept of adblocking has been around for many years, adblockers started to gain mainstream popularity in 2014,<sup>3</sup> and publishers who depend on ad revenue to fund their businesses are on high alert. Newspapers are a key example; since 1990, newspapers have seen a steady decline in total weekday subscriptions, only partially offset by new online subscriptions.<sup>4</sup> Since 2000, they have seen a dramatic decrease in print advertising, again only

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<sup>1</sup> Quoted in Digiday, 2015: <https://digiday.com/media/winners-losers-ad-blockalypse/>

<sup>2</sup> See Appendix A

<sup>3</sup> See Appendix B

<sup>4</sup> See Appendix C

slightly compensated by an increase in online advertising.<sup>5</sup> Consumers are increasingly displaying a reluctance to pay for content, whether in print or online. This leaves publishers, especially those who produce original content, few other options than to rely heavily on ad revenue.

Unfortunately, publishers' outsized dependence on ad dollars led to a proliferation of increasingly eye-grabbing ad formats. New ad technology developments allowed advertisers and publishers to serve flashier, bigger, and more noticeable ads than ever. As the complexity behind online advertising increased, the ecosystem similarly expanded; today, a simple banner ad on a webpage may involve dozens of third-party systems, scripts, and calls to external servers. Users have grown increasingly frustrated by the dominance of annoying and interruptive ad formats. In order to regain control over the internet browsing experience, ad blocker technologies were developed.

Ad blockers allow users to eliminate distracting advertising and focus on the page's content. However, the rise of adblockers puts the creation of new content at risk. Content creators, currently dependent on ad revenue to stay afloat, are left with few other options to maintain their businesses and livelihoods. The conflict between users and publishers can be viewed as a healthy tension between opposing markets, something that innovators within the ecosystem can remedy. However, the risk is not that certain business practices may become obsolete in light of a new model. The risk is that the development of valuable content, and in the context of newspapers, societally critical content, may be at stake. Ad-based revenue models may well fall out of favor in lieu of micro-payments, short-term subscriptions, or donation-based models. But users who are unable to pay will be greatly disserved as vital media content disappears behind payment walls.

Digital media has the ability to reach more people than any other medium before. "Digital media" is a broad category; it includes all kinds of information from the mundane or arbitrary to the profound and significant. One of the most significant categories of content is journalistic media, which is considered to be the fourth pillar of a democracy. A free and thriving press protects civil liberties and holds power accountable.

In a worst-case-scenario, adblocking harms the ability of the press to remain "free," not in terms of political liberty, but in terms of remaining accessible to all. An informed citizenry is vital to democracy, and information must come from impartial and reputable media sources. The revenue models that currently support online content providers are under attack; it is therefore

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<sup>5</sup> See Appendix D

vitaly important to understand the source of the frustration in order to make strategic decisions moving forward. Simply hiding all content behind a paywall is not the answer. As David Chavern, CEO of the Newspaper Association of American pointed out: "Not being able to afford HBO is one thing. Not being able to afford quality news would be a much more serious problem."<sup>6</sup>

## The Adblocker Ecosystem

To understand how adblockers function, it is first crucial to understand how digital advertising works and who the key players are. Most big publishers (website owners) that choose to serve ads use an ad network, such as Google AdWords, to help them sell their inventory of ad space.<sup>7</sup> A publisher's inventory is composed of the number of ad units per page times the number of page views they get in a month. Ad networks connect advertisers to publishers by allowing advertisers to access ad space on publisher websites in real time, letting them bid against each other to display their ad in a specific page context or to a specific user, based on demographic data the ad partner has stored. Publishers enable this exchange by placing snippets of code on their website which tells ad partners where ads can be displayed, and which allow ad partners to track a user's movement through the web.

Advertisers pay to place their ads on publisher websites, either via an ad network or directly through the publishers. Large publishers tend to have more direct ad sales, while smaller websites typically depend more heavily on ad networks to sell their inventory. Most commonly, advertisers pay on a cost-per-click (CPC) basis or cost per thousand impressions (CPM) to the ad network, which shares a portion with the publisher.

## How Adblockers Work

Adblockers are pieces of software that remove, hide, alter, or disable digital advertisements from a webpage or mobile app. This study focuses on the use of adblockers at the browser-level, though it is also possible for ads to be blocked within apps, via VPNs or HTTP proxies, or by Internet Service Providers at the carrier level.<sup>8</sup> Adblockers remove ads and either reformat the page to obscure where an ad would have gone, leave the ad space blank, or fill the ad space with their own content (Kolowich, 2015). When a user visits a web page with an

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<sup>6</sup> Quoted in PageFair, 2016, p. 18

<sup>7</sup> See Appendix E

<sup>8</sup> See Appendix F

adblocker activated, the adblocker will check which files are being delivered and block the ones it determines to be ad-related.<sup>9</sup>

Many of the most popular adblockers including Adblock, AdBlock Plus, and uBlock, use two key techniques to block ads (Blondy, 2015). The first method is called Communication Blocking, which filters out ads, ad frames, and tracking scripts based on the most common URLs of ad networks and advertisers. EasyList is an open-source, third-party list used by many of the most popular adblockers to decide what should be blocked from a webpage (<https://easylist.to>). Communication Blocking is the core functionality of most adblockers because ads are often hosted externally, so it is possible for adblockers to block ads before they are ever downloaded by the user's machine

Communication Blocking targets ads that are served via an ad exchange, but it is less effective with ads that are natively hosted by publishers running direct advertising campaigns. For this, adblockers use a technique called element hiding. As it suggests, this technique scans the HTML of a web page for content that could be ad-based, and then hides it from display. For example, it may have a rule that automatically hides any element with the class "Ad" (Blondy, 2015).

## Whitelisting

Whitelisting is a method some ad blockers use that allows publishers to still serve ads to users who have an ad blocker activated. The Acceptable Ads Initiative, originally created by AdBlock Plus, is the largest organized example of whitelisting. AdBlock Plus is the most popular adblocker in use today, with over 50 million active users (Protalinski, 2016). In 2011, AdBlock Plus launched the Acceptable Ads program with the expressed purpose of offering a less-extreme version of adblocking (AdBlock Plus, 2017b). Publishers could apply to this program based on a number of user-generated criteria on what constitutes an acceptable ad. Once accepted, publishers were added to a whitelist which, if AdBlock Plus users had the Acceptable Ads program enabled, would allow them to continue to serve certain ads to its adblocking visitors. Publishers are required to comply with all the criteria of the Acceptable Ads initiative, which dictates ad placement, distinction, design, functionality, and size (AdBlock Plus, 2017b). About 92% of AdBlock Plus's users are opted-in to the Acceptable Ads program (O'Reilly, 2017).

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<sup>9</sup> See Appendix G

Today the Acceptable Ads initiative has extended beyond just Adblock Plus. The four largest adblockers, Adblock Plus, Adblock, Adblock Browser, and Crystal, all offer their users the option, typically through an auto opt-in feature, to view Acceptable Ads. Together, these four services have been downloaded to over 130 million devices (O'Reilly, 2017). Eyeo, the company that owns Adblock Plus, recently transitioned management of the Acceptable Ads program and its subsequent whitelist to an independent committee composed of industry experts, user advocates, and adblock users.<sup>10</sup>

The Acceptable Ads program has been the subject of controversy because Eyeo has used it to generate revenue through Adblock Plus. While it is free for publishers to apply to become whitelisted, certain large publishers, defined as those who will receive 10 million monthly ad impressions through the program, have been asked to pay a fee for the privilege (Adblock Plus, 2017b; O'Reilly, 2017). Charging large websites like Google and Amazon hefty fees to serve ads to its own visitors has enabled Eyeo to monetize Adblock Plus, which is completely free to its users, but media groups have complained that the practice is unfair and anti-competitive (Orlowski, 2016).

## Circumvention and Anti-circumvention

As adblockers have gained popularity, publishers have taken steps to reduce the impact they can affect on their ad revenue. There are a number of technological interventions publishers can employ to discourage or prevent adblock usage on their web pages. The first step is understanding how many visitors are using an adblocker. The most basic method is to add a few lines of JavaScript to the web page to determine if an adblock is currently activated. To use this method, publishers must first create a “decoy” JavaScript file that matches a filename that all adblockers would detect, for example *ads.js*. Later in the page will be a check to see if that file has actually been served to the user; if not, then it is clear that some form of ad blocking has occurred.

This test is simple, but rudimentary, and many publishers have sought more advanced methods for tracking adblocker usage over time and across devices. Adblock Analytics, a US-based company, offers a software to help publishers track the number of visitors coming to their sites with an adblocker activated. Their software offers more nuanced checks to detect adblocker usage across device, browser, and plugin. Adblock Analytics connects with Google

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<sup>10</sup> See Appendix H



Analytics to synchronize their data with Google's demographic information ([www.adblockanalytics.com](http://www.adblockanalytics.com)).

Once publishers have a clear understanding of who is blocking ads, they can choose whether to implement an anti-adblock solution. One option is to become whitelisted with the Acceptable Ads initiative, as mentioned above. But publishers have other, more direct options as well. Many publishers, as a first step, choose to show a message to visitors with an adblocker enabled, asking them to disable the adblocker on their domain.

Some sites simply display a message explaining the value of advertising and asking the visitor to disable the adblocker on their domain, but do nothing else to prevent access to site content. Others, like Forbes, Wired, and Business Insider, refuse entry to all visitors with an adblocker enabled.<sup>11</sup> Wired and Business Insider have implemented an option for users to either disable their adblocker and get free access to all site content, or visitors can choose to pay a small fee (\$1 per week) and get ad-free access (Wired Staff, 2016). Results from these attempts are still preliminary. Forbes reported that about 42% of its adblocked visitors either disabled their adblocker or whitelisted Forbes when faced with their wall (O'Reilly, 2016). As of May, 2016, approximately 1,100 websites in the Alexa top-100K currently check if their users have an adblocker installed, and 300 of them utilize some form of messaging or blocking to encourage users to disable their adblocker (Mughees, et.al., 2016).

PageFair, an Ireland-based startup, offers a technological workaround for publishers who still want to serve ads to users with an adblocker activated. PageFair mimics the functionality of ad exchanges like Google. Publishers place a piece of JavaScript on their webpage along with empty, specially-labeled content areas below their normal ad spaces (Chris, 2014). If a user does not have an adblocker enabled, he will see the normal ads on the page. If a user does have an adblocker enabled, he will be served a replacement ad via PageFair, which only activates once it detects the presence of an adblocker.

Of course, new technologies have arisen to counteract these protective measures. In an inevitable game of cat-and-mouse, as publishers have developed technologies to circumvent adblockers, adblockers (and others) have developed technologies to circumvent adblock-blockers. One example is Anti-adblock Killer, a free script available to adblock users who are frustrated by publishers' adblock walls. Based on user reports of which websites have an adblock wall enabled, Anti-adblock Killer has customized scripts that bypass these blocks and allow users to access the page content without disabling their adblocker. Die-hard adblock

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<sup>11</sup> See Appendix I

users can also disable all JavaScript at the browser level. Most browsers let users determine which kinds of files websites can serve them, and disabling JavaScript is an effective way to block all advertisements (Ashish, 2016). Most users do not choose this route, however, as this also disables a lot of other, useful web functionality.

Other circumvention measures are more direct: in October 2015, hackers succeeded in gaining access to PageFair's Content Distribution Network (CDN) which is what serves the JavaScript that runs across all of their publisher websites (Blanchfield, 2015). With this access, the hackers were able to serve malware to site users, instead of PageFair ads. Some sources reported the attack as inevitable in the ongoing fight between security-concerned adblockers and ad-serving technology providers (Davies, 2015).

Publishers cannot beat adblockers with technology; adblock providers and users themselves will always find a way to outmaneuver ad serving technology, in an ever-escalating arms race of circumvention tactics. To restore equity, publishers need to explore other economic, and possibly legal options. Understanding the advertising ecosystem as well as the technology behind adblockers and the countermeasures publishers have taken is the first step in identifying sustainable alternatives.

## II. Theoretical Framework: Equity Theory

“In moving toward an understanding of inequity, we increase our knowledge  
of our most basic productive resource, the human organism.”

— Adams, 1963, p. 435

Equity theory has been classified as a theory of motivation (Hayibor, 2012) and as a theory of the perceptions of fairness (Greenberg, 1990; Kwon & Jang, 2012). The explicit goal of equity theory is to understand which factors influence fairness perception and how individuals react to unfair situations within the context of a social transaction (Adams, 1965; Walster, Berscheid & Walster, 1973; Wilkens & Timm, 1978; Hayibor, 2012). Fairness is an important quality in social exchange because “people are most satisfied when they perceive that they are being treated fairly—that is equitably—in their relationships with other people, or with groups or organizations” (Hayibor, 2012, p. 226). Equity theory has classically been applied to organizational environments, particularly around areas of work inputs and salary outcomes (Homans, 1961; Adams, 1963, 1965; Pritchard, 1969). Modern explorations have expanded

equity theory into the world of customer loyalty (Raimondo, Miceli, & Costabile, 2008), IS and IT (Joshi, 1989; 1990), and software piracy (Glass & Wood, 1996).

Adams (1963 & 1965) is often considered to be the father of equity theory, especially within the workplace and salaried exchanges. However, Adams (1963) is quick to acknowledge that equity theory cannot be understood purely in economic terms: “There is an element of relative justice involved that supervenes economics and underlies perceptions of equity or inequity” (p. 422). His interpretation of equity theory expanded on the concept of a transactional relationship composed of a collection of inputs and outcomes. Inputs are the variables an individual supplies into the transaction, such as time, experience, skills, or money. Outcomes are the benefits and rewards an individual receives from the transaction, such as pay, seniority, social status, or other intangible benefits.

Adams (1963) emphasizes that inputs are “as perceived by their contributor,” and so offers two qualifying criteria: recognition and relevance (p. 423). A variable qualifies as an input if it is recognized as such by the possessor of the attribute, or by both the possessor and the other party. However, if only the other party recognizes the variable, it cannot be considered an input because it carries no psychological weight with the possessor. The matter of relevance affects the recognition of inputs, as the possessor and the other party may have different opinions on which variables are relevant to the transaction. Thus, calculating equity is inherently subjective.

The seminal research of Walster, Berscheld, and Walster (1973) distills the research of Adams and offers a series of propositions and corollaries that get to the heart of the individual and group experience within equity theory:

1. “Individuals will try to maximize their outcomes... groups can maximize collective reward by evolving accepted systems for ‘equitably’ apportioning rewards and costs among members, [and] groups will generally reward members who treat others equitably and punish members who treat others inequitably” (p. 151).
2. “So long as individuals perceive that they can maximize their outcomes by behaving equitably, they will do so. Should they perceive that they can maximize their outcomes by behaving inequitably, they will do so” (p. 153).
3. “When individuals find themselves participating in inequitable relationships, they become distressed...Experiments...indicated that those who receive less than they deserve feel distress (usually in the form of anger) [while] those who receive more than they deserve feel distress (usually in the form of guilt)” (p. 153).
4. “Individuals who discover they are in an inequitable relationship attempt to eliminate their distress by restoring equity” (p. 154).

They also offer a helpful definition to understand when equity exists: “A relationship is defined as equitable when a scrutineer perceives that all participants are securing equal relative outcomes” (p. 154).

Homans (1961), in his book on distributed justice, was the first to present a model of equity, with the formula

$$\frac{OutcomesA}{InputsA} = \frac{OutcomesB}{InputsB}$$

where all outcomes and inputs are calculated by the individual. However, this model has been critiqued because, depending on the context, incomes and outcomes can be either positive or negative, potentially resulting in misleading calculations (Glass & Wood, 1996). Walster et al. (1973) proposed a new formula that would better account for negative inputs:

$$\frac{OutcomesA - InputsA}{|InputsA|} = \frac{OutcomesB - InputsB}{|InputsB|}$$

Pritchard (1969) developed a table to map out the possible outcomes for equity. This table helps illustrate that the inputs and outcomes of both parties do not necessarily need to be equal, in terms of high and low inputs and outcomes, for the total exchange to be equitable. There are many variations of social exchange that lead to equity:

Table 1: Situations of Equity and Inequity, Pritchard (1969)		
Equitable	Inequitable	
	<i>Under-reward</i>	<i>Overreward</i>
LL, LL	LL, LH	LL, HL
HH, HH	HL, LL	LH, LL
LL, HH	HL, LH	LH, HL
HH, LL	HL, HH	LH, HH
LH, LH	HH, LH	HH, HL
HL, HL		

As illustrated in Pritchard’s table, feelings of inequity can arise when an individual feels either under- or over-compensated. In an experiment, both underpaid and overpaid workers felt uncomfortable with their own perceived inequity: the underpaid workers exhibited a sense of

grievance, complained more, and actively desired to change jobs, while overpaid workers felt uneasy with their perceived preferential treatment (Adams, 1963). Adams (1963) labels this discomfort “tension,” and argues that this is what motivates individuals to address the inequity they feel (p. 427). Understanding when and why inequity arises is important because individuals who feel a sense of inequity in their relationships will be motivated to redress this unfairness in one manner or another (Wilkins & Timm, 1978).

Within the context of Adblocking, equity theory offers a nuanced view of both sides of the adblocking equation. In a perfect world, publishers and users would exist in symbiosis, each contributing equitably to the exchange. However, the very existence of adblockers illustrates that the exchange is not equitable, or at the very least was open to exploitation from users who sought to maximize their outcomes. Equity theory offers a framework to analyze the various inputs and outcomes on both sides of the transaction. Because these inputs and outcomes are not purely economical—they include time, value, privacy, among many other factors—equity theory is useful in ordering and comparing these many components in order to understand the source of the inequity as well as what may be done to restore equity.

## Equity and social comparison

Equity within a social exchange is calculated by an individual based on his perceived inputs and outcomes, but the value of those inputs and outcomes, as well as which inputs and outcomes are perceived to be relevant, derive from social comparison. An individual's feelings of inequity often arise from a comparison to another person or group in a similar position, when she feels that her inputs and/or outcomes are not in line with those of her peers (Adams, 1963). This comparison-other can be another individual in a similar transactional relationship (Adams, 1965) or the individual's own historic self (Bretz & Thomas, 1992).

Equity theory states that an individual's perception of fairness stems from these social comparisons, whether they are made consciously or unconsciously (Campbell & Pritchard, 1976). Other contributors to equity theory disagree about the level of importance of social comparison. Pritchard (1969) argues that the imbalance between an individual's perceived inputs and outcomes will lead to dissatisfaction, regardless of any other external comparison, though he concedes that social comparison is a factor in some circumstances.

Culture also influences an individual's perception or calculation of equity. The relevance and recognition of inputs and outcomes depends on the culture in which the transaction occurs.

With the knowledge and basic understanding of the cultural norms of an individual, it becomes possible to identify the framework for an equitable social transaction (Adams, 1963). Within a sociohistorical perspective, a preference for equity over equality has been observed and studied almost exclusively within contemporary Western culture (Sampson, 1980). In Western culture, equity is the result of a fair distribution of reward, compared to contribution (Adams, 1963; 1965; Walster, Berscheid and Walster, 1973; Fadil et. al, 2005).

The capitalistic economic systems that dominate Western culture favor individualism, personal agency, and competition, leading to a cultural preference for equitable distribution of reward. In contrast, cultures with values such as collectivism, understanding, and solidarity favor an equal distribution of reward (Sampson 1980; 1983). In a simplified model, the cultural differences between Eastern and Western societies have been classified as collectivism and individualism, respectively (Fadil et. al., 2005). However, rather than presenting two distinct theoretical models for equity and equality, it is understood that these concepts complement each other and are best represented as facets of the same overarching theory of motivation.

Western culture has developed an understanding of what constitutes a fair exchange between input and outcomes. People in Western cultures internalize these norms throughout their lives and in multiple contexts, including at home, at school, and within professional life (Adams, 1965). These norms are learned, Adams (1965) argues, by “observation of the correlations obtaining for a reference person or group—a co-worker or a colleague, a relative or neighbor, a group of co-workers, a craft group, an industry-wide pattern” (p. 279).

Social comparisons can help explain Pritchard’s table of equity (see Table 1), which shows multiple possibilities for reaching equity. An individual may compare his outcomes to those of someone else in a similar social context and see that his own outcomes are smaller; yet this will not lead to feelings of inequity if the other person is perceived to deserve the greater outcomes based on his greater inputs (Adams, 1965).

Social comparisons are a relevant factor within adblocking because many users of the internet compare their current experience browsing web pages with their historical experiences. For example, if they feel that their inputs have increased (they are forced to view more ads, and in more distracting placements) but their outcomes have remained the same (content has not significantly improved), then they might feel the exchange has become inequitable over time. A user who does not block ads may compare herself to an adblock user and think she is contributing too much to the transaction, and so justify her own activation of an adblocker. On the flip side, publishers may feel that their outcomes have decreased (fewer consumers are

paying for subscription-based content), and they see their competitors are able to earn additional revenue via more aggressive advertising, so they are justified in increasing the advertising demands on their users.

## Motivations for inequitable behavior

Even though inequity is shown to provoke tension in individuals, it is a common factor in social exchanges, particularly those with an economic element. An individual may experience inequity due to a personal choice to make a relationship inequitable, or by entering into a relationship that becomes inequitable over time. Equity and inequity do not exist at fixed points in time. Rather, equity (or inequity) is the sum of overall value throughout the entirety of the social exchange (Kwon & Jang, 2012). Inequity can arise from individual action, group sanctions, or through environmental circumstance.

Walster, Berscheld, and Walster (1973) offer two explanations for why individuals in a social exchange may behave inequitably. First, if the individual is certain that he can maximize his outcomes by behaving inequitably, it makes sense to do so. Second, behaving inequitably allows individuals to test limits and impose sanctions in order to determine if such limits are still operational. Essentially, behaving inequitably can sometimes result in long-term personal gain. Furthermore, due to the subjective nature of equity, participants within an exchange may have different opinions on whether a relationship is equitable, and an outside observer could have a different opinion still. In short, “equity is in the eye of the beholder” (Walster, Berscheld, & Walster, 1973, p. 152).

## Restoring equity

If an individual's experience with inequity becomes unbearable, she will seek a way to restore equity in one of two ways. Actual equity occurs when an individual takes action to adjust either her own inputs and outcomes or the inputs and outcomes on the other participants in the transaction. For example, a worker might slack off to lower her inputs, or demand a raise to increase her outcomes. Her decreased work ethic may force her employer to work harder, raising their inputs, and she may intentionally damage company property, resulting in lowered outcomes for the employer (Walster, Berscheld, & Walster, 1973).

Experiencing inequity can cause an individual to feel cognitive dissonance; to reduce this, an individual may choose (consciously or unconsciously) to distort his perception of the transaction's inputs and outcomes in order to classify the exchange as fair, thus restoring cognitive equity. For example, an employer who knows his workplace to be exploitative may justify his behavior by thinking his employees are bad workers, thereby minimizing their inputs, they have too much fun at work, thereby maximizing their outcomes, thinking he, as a manager, is indispensable to the company, thereby maximizing his inputs, or focusing on the stress of the work, thereby minimizing his outcomes (Walster, Berscheld, & Walster, 1973).

The participant-other can also affect an individual's equity perceptions. For example, simply offering an explanation has been shown to help restore cognitive equity in situations where an individual feels under-rewarded (Williams, 1999; O'Malley & Davies, 1984). Another tactic is to get the individual to shift who they are using as a social comparison; changing an individual's frame of reference may be enough to restore cognitive equity (Hayibor, 2012).

Individuals may choose different methods of restoring equity based on their perceived effectiveness. If the likelihood of successfully attempting to restore actual equity is low, individuals may be more likely to employ cognitive equity (Hayibor, 2012). Furthermore, if the consequences of attempting to restore equity involve sanctions, individuals may choose to retain the status-quo. In an experiment, Glass & Wood (1996) found that "perceived negative outcomes do in fact reduce an individual's intentions to provide another person with software for illegal copying" (p. 1196).

In the context of adblocking, the concepts of actual and cognitive equity are both highly relevant. It could be argued that users choose to begin using an adblocker due to perceived inequality; if users were able to change their perception and reframe the transaction as equitable (cognitive equity), they may be persuaded to disable their adblocker. Conversely, if publishers understand that the transaction is, at least from a user's perspective, inequitable, they may be persuaded to take action to restore equity (actual equity). Publishers could try to maximize their users' outcomes via improved content or access, or they could work to invoke higher sanctions for adblock users, either by technical means or via legal action.

## Conclusion

Equity theory is useful for analyzing how individuals perceive the fairness of their social exchanges and predicting when they will become motivated to act to re-balance unfair



relationships. To perform this analysis, it is necessary to understand what outcomes are important to individuals, both positive and negative. In the case of adblocking, users may weigh the benefits of uninterrupted browsing with the potential consequences of blocked access. Publishers seeking a way to stop adblocking may weigh the negative impact of lost revenue against the potential costs and risks of pursuing legal action.

Understanding the sources of perceived inequity can help companies, managers, and individuals find means of redress in an effort to restore equity, or help to prevent inequity from arising in the first place. As Adams (1963) reminds us, an improved understanding of equity increases our understanding of humanity.

### III. Methodology

#### Philosophical Underpinnings

This study takes a subjectivist approach to research which holds that social phenomena are the result of social actors perceiving and experiencing their existence (Saunders et. al., 2009). This view emphasizes the fluid nature of social phenomena, which are revised as social actors interact and evolve. Because this research is concerned with perception and individual experience, the subjectivist ontology is most closely aligned with the research goals of this study.

Within this subjectivist framework, this paper takes a pragmatic approach to research. Pragmatism holds that the most important factor in determining the philosophical approach to research is the research question itself (Saunders, et. al., 2009). Ontologically and epistemologically, pragmatism offers the most flexible approach to collecting knowledge and understanding reality. The questions put forth in this paper cannot be answered without both broad sampling and deep investigation, therefore a mixed research approach is called for.

In the analysis, this paper reflects both the interpretivist and realist paradigms. The interpretivism paradigm says that for researchers to understand the actions of social actors, they must first understand the motivation for those actions (Saunders et. al., 2009). Within this framework, researchers must also consider the nuances and details of a social phenomena in order to understand the underlying reality behind them (Remenyi et. al., 1998). Interpretivism emphasizes the relative nature of truth, depending on a subject's perspective. This grants

subjectivity in human meaning-making, while still allowing for some amount of objectivity. This way of thinking is important for researchers when trying to understand these actions among social subjects. Social actors, for example the respondents in the interviews conducted for this study, may have different interpretations of the situations they experience. For this reason, a qualitative research collection method is pursued, as discussed later in the Methodology section of this paper.

The realist paradigm is more objective, though still allows for the presence of social conditioning (Saunders, et. al., 2009). Realism depends on observable phenomena, data, and facts to provide reliable knowledge, and calls for relevant research methods depending on the subject matter. For this reason, this paper also includes secondary data analysis in the form of a cross-sectional review of 13 independent studies.

## Research design

This is a conceptual thesis built on archival studies and expert interviews. The theoretical framework in which this research is conducted primarily concerns perception-making. Therefore, this study looks at the perceptions of users and publishers, the two core groups affected by adblocking. User perceptions are collected using an archival study composed of thirteen published surveys. Publisher perceptions are explored via two expert interviews with representative publishers. Both users and publishers exist together within a legal environment that itself is designed to promote justice and fairness. Within this context, the legal environments of the EU and the US are described and compared, as they relate to two core practices of adblocking. Results from the legal analysis, qualitative interviews, and archival study are combined to offer strategic alternatives to publishers who are concerned about the impact of adblocking on their businesses.

## Research methods & data collection

In this thesis, both primary and secondary data were collected (Saunders, et. al., 2009). Primary data were collected in the form of two qualitative, expert interviews with representative publishers (see Table 2). The interview subjects were selected based on their location and the size of the publication they represent. The goal was to get an inside perspective from a representative of a highly trafficked website whose business model depends on ad revenue.

The two websites chosen—Den Blå Avis and Thought Catalog—were selected because they are both among the most highly trafficked websites in their respective countries, and their respective business models offer unique perspectives for analysis. It was also important to speak to experts from both the USA and the EU. An interview guide was developed based on the research goals and theoretical underpinnings of the project.<sup>12</sup> Both experts were given the same questions, with variations in follow up questions as needed. Both interviews were recorded with the interviewees' permission and transcribed.

<b>Table 2. Data Sources: Expert Interviews</b>						
<b>Publication</b>	<b>Country</b>	<b>Interviewee</b>	<b>Position</b>	<b>Type</b>	<b>Duration</b>	<b>Date</b>
Den Blå Avis	Denmark	Jens Aavild	Product Manager	Phone	45:22	March 23, 2017
Thought Catalog	USA	Cristina Swartz	Director of Accounts & Ad Operations	Phone	43:28	March 28, 2017

For the business analysis, secondary data including surveys, reports, and whitepapers were reviewed (see Table 3). It was an advantage to use secondary data sources for the business analysis because of the great breadth, depth, and calibre of existing, published reports already available. Reports were selected for relevance, timeliness, and quality. Quality was assessed by reviewing the methodologies of the various reports as well as the demographics represented and the sample size included. No reports or surveys published before 2015 were included.

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<sup>12</sup> See Appendix J

**Table 3. Data Sources: Adblocking Reports**

Author, Publication	Year	Type	Sample Size	Demographic Location
Adblock Plus / EYEO	2015	Survey	2,000	France
Adblock Plus / EYEO	2015	Survey	2,000	Germany
PageFair	2015	Survey	400	US
Adblock Plus / EYEO	2015	Survey	2,000	USA
CXENSE	2015	Whitepaper	N/a	N/a
HubSpot	2016	Survey	1,055	US, UK, Germany, France
C3Research / IAB US	2016	Survey	1292	US
IAB UK	2016	Survey	2,049	Great Britain
Gladly	2016	Survey	243	N/a
Tune	2016	Survey	3,939	US, UK
KPMG	2016	Survey	2,072	UK
PageFair	2016	Empirical data / Case study	N/a	Global
PageFair	2017	Survey	4,626	US

The legal section presents a comparative law analysis between EU and US law. The goals of a comparative analysis are to present a background understanding and critical analysis of the current laws of the countries within the areas in focus (Bell, 2011). By comparing two legal systems it is possible to show “that the goals of law can be achieved by different rules and institutions in different social contexts” (Bell, 2011, p. 158). From this perspective, a comparative analysis is primarily descriptive, creating the foundation for a positive analysis of the relevant laws. However, comparative analysis may also lead to a normative analysis, as the comparison between two legal systems itself “raises questions about the justifiability of differences and whether they achieve the purposes of the law equally effectively” (Bell, 2011, p. 158).

This section includes an empirical overview of the relevant laws that touch upon two primary adblocking practices: whitelisting and circumvention. Comparing the laws that could affect adblocking practices from these two contexts has two purposes. First, it exposes the strengths and weaknesses of each area’s legal system as related to adblocking, and second, it offers crucial information to publishers and other relevant parties on how best to address the growth of adblockers. Primary legal texts including treaties, regulations, directives, extant law, and case law, as well as secondary legal texts including textbooks, law journal articles, and journalistic articles are reviewed. A positive analysis exploring what the relevant laws are and

how courts have interpreted them is included, as well as a brief normative exploration of the gaps and inadequacies within the current legislative framework.

## Data analysis

There are three groups of data analyzed within this study. The first is an archival study of thirteen published reports. Statistics about adblock usage as well as perceptions of adblockers from both users and publishers were extracted, compared, and combined to create an overview of the current status of adblocker usage as well as the dominant perceptions of advertising and adblocking. The goal in this study is twofold: first, to get a broad overview of the current market penetration of adblocker usage today, and two, to compare how attitudes towards online advertising differ among various demographic groups.

The second data group are two qualitative publisher interviews. Both interviews were conducted over the phone using the same interview guide.<sup>13</sup> Each interview was then transcribed. Relevant quotes and insights were extracted and grouped based on category; the categories themselves were built into the publisher guide and were based on the background information present in the archival study as well as the intended application of equity theory.

The third data group is the comparative legal analysis. Within the two adblocking practices examined (whitelisting and circumvention), the relevant areas of law within the EU and the US are presented. First, a background description is offered to introduce the current legislative domain including treaties, extant law, and case law. Then, a comparison of the similarities and differences between the legal environments of the EU and US is offered. This highlights the challenges present within each legal area, as well as the possibility for future legislative development based on the legal structures present in the complementary areas.

## Delimitation

The question of why people use adblockers is broad. First, it is necessary to limit which kind of adblocking is examined; this paper purposefully examines adblocking only at the browser-level, excluding app-level, carrier-level, or ISP level adblockers or filters. Furthermore, the phenomenon is primarily analyzed from the publisher's point of view, examining their options and potential next steps based on current market analysis. From a legal standpoint, this paper

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<sup>13</sup> See Appendix J

only examines and compares legal options within the EU and the US, as these are two of the biggest world markets with some of the largest penetration of adblock usage. Within this context, only the areas of law related to two identified components of adblocking (whitelisting and circumvention) are explored. The primary analysis focuses on competition law, copyright law, contract law, and privacy law, with other areas mentioned but not fully explored as they were deemed less relevant within whitelisting and circumvention practices.

## IV. Adblockers and the Law

The practice of adblocking itself is largely considered safe from legal attack. The few courts who have reviewed claims against adblocking in general defended both the practice of blocking ads and the creation of adblock technologies. From a legal perspective, then, it is necessary to analyze adblocking as a collection of component practices. This analysis focuses on two adblocking practices that are most likely to be challenged in a court of law: whitelisting and circumvention.

There are three groups whose interests are at stake: publishers, adblock creators, and users. There is little motive or legal precedent for publishers to bring legal action against users, therefore this analysis focuses on the possibilities for publishers to bring legal action against adblock creators. This review also considers the possibility that users could claim that their privacy is infringed by practices used by publishers to defend themselves against adblockers. Subsequently, this study briefly explores the laws governing online privacy in the EU and the US and offers suggestions for how publishers can best protect themselves from these threats.

This analysis describes and compares the laws of the EU and the US that are most relevant to the practices of whitelisting and circumvention. These primarily include competition law, copyright law, contract law, and privacy law.

### Whitelisting

Whitelisting, in which adblockers authorize certain publishers to display ads based on the adblockers' own criteria of which ads are acceptable, is only a problem when adblockers charge publishers to be included. The Acceptable Ads initiative, conceptually, would be hard to attack legally in either the US or the EU. However, because the program charges hefty fees to

some websites and not others, both publishers and legal experts have criticized it for being anti-competitive (Orlowski, 2016).

### Background: Competition Law

Competition law seeks to control market competition and trade activities by regulating anti-competitive practices carried out by private companies and other organizations. The goal of competition law is to promote fair competition within a nation (US) or nation-states (EU). Within the EU, “competition law has been viewed as an important complement to the free trade rules, being an instrument in overcoming trade restrictions caused, not by the Member States, but by private actors” (Trzaskowski et. al., 2015, p. 147). The Internet age has seen a rise in technology-driven monopolies. These arise primarily from companies that have first-mover advantages in a field where the network effect takes hold, propelling them to the top of a brand-new market. However, these new markets are volatile, causing companies once thought to be unstoppable to plummet into collapse, leading to the new term “temporary monopolies” (Shapiro & Varian, 1999, p.173). AdBlock Plus is one example of a company that has quickly risen to the top of a new industry on the value of its ample user-base.

American competition law stems from the Sherman Act of 1890 which prohibits anti-competitive practices between private enterprises. It was established in response to a growing number of companies who colluded with rivals to fix prices and other business outputs in order to gain or maintain a monopoly. The goal of the act is to preserve a competitive marketplace by outlawing artificial monopolies and other practices that skew consumer prices or market supply. The law itself is quite limited, focusing primarily on regulating the formations of a trust or monopoly.<sup>14</sup> In modern interpretation, the law has been used to prevent practices that have the potential to harm competition. Two acts passed since the Sherman Act appended additional businesses practices to the list of activities deemed anti-competitive. The Clayton Antitrust Act of 1914 prohibits price discrimination between different purchasers. This act was later amended by the Robinson-Patman Act of 1936 which prohibits price discrimination among equally-capable distributors.<sup>15</sup> Notably, the Robinson-Patman Act governs only the trade of commodities or physical goods; services and other intellectual property licenses are not controlled by this law.

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<sup>14</sup> 15 USC. § 1 - 7.

<sup>15</sup> 15 USC. § 13.

European competition law was introduced in the Treaty of Rome, since amended by the Treaty of Lisbon. It has become “an important complement to the free trade rules, being an instrument in overcoming trade restrictions caused, not by the Member States, but by private actors” (Trzaskowski, et. al., 2015, p. 147). The goal of competition law, just as in the US, is to promote competition in the EU by preventing private enterprises from engaging in anti-competitive practices. Article 3.1.b. TFEU grants the EU “exclusive competence [in] the establishing of the competition rules necessary for the functioning of the internal market.”<sup>16</sup> This competence is expanded and clarified later in Articles 101 and 102 and within the Merger Regulation. Article 101 prohibits practices which “directly or indirectly fix purchase or selling prices or any other trading conditions” or “apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage.”<sup>17</sup> Article 102 similarly prohibits the abuse of dominance in the form of “directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions” or “applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage.”<sup>18</sup>

There are two primary conditions that must be met for EU competition law to be applicable. The first states that undertakings or the agreement between undertakings are involved. The definition and interpretation of an undertaking is quite broad and includes both public and private companies as well as other entities or individuals that conduct economic activities. The CJEU has stated that “any activity consisting in offering goods and services on a given market is an economic activity.”<sup>19</sup> The second condition is that trade between Member States must be affected. The CJEU has broadly interpreted this requirement, so even potential effects on trade between Member States would qualify.<sup>20</sup>

A few media companies brought suits to court, primarily in Germany where Adblock Plus’s parent company, Eyeo, is headquartered, and where adblocking has the largest market penetration in Europe (PageFair, 2017). In 2015 Zeit Online GmbH and Handelsblatt GmbH together sued Adblock Plus in a Hamburg court for injunctive relief. The court ruled that users continue to have the right to use the plugin (Kelion, 2015). Then, in December of 2015, a portion of German competition law, derived from EU law, was revised to expand a consumer protection

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<sup>16</sup> 2012/C 326/01. Article 3(b)

<sup>17</sup> 2012/C 326/01. Article 101(1)

<sup>18</sup> 2012/C 326/01. Article 102

<sup>19</sup> Joined Cases C-180/98 to C-184/98 *Pavlov and Others* [2000] ECR I-6451, paragraph 75.

<sup>20</sup> Case C-5/69 *Völk v Vervæcke* [1969] ECR 295.



law to include protection between business entities. The new law states that businesses are protected from dealing with other businesses that exert aggressive commercial action deemed likely to lead market participants to a commercial decision they would otherwise not have taken due to, among other things, unacceptable influence.<sup>21</sup>

In the US, the question of whitelisting being anti-competitive has yet to go before a court. However, the announcement of the new Brave web browser was met with concern and a cease and desist letter from a collective of US-based newspaper publishers. Brave promises to have built-in adblocking which includes a mechanism to replace publishers' ads with its own (Yousefi, 2016). The cease and desist letter, signed by 17 publishers, accuses Brave of unfair competition practices as well as breach of contract and unauthorized access. However, as Brave has not formally launched yet and therefore has very few users, any chance of a legal action is still purely hypothetical.

### Case Examinations: AdBlock Plus in Germany

Germany has had the highest number of cases brought to court from publishers against adblockers. This is not surprising as AdBlock Plus's parent company, Eyeo, is headquartered in Cologne, and Germany has one of the highest rates of adblock usage in Europe. In 2015, courts in Hamburg, Munich, and Cologne ruled on cases against AdBlock Plus. In all three cases, the courts ruled that the "unfair competition act should be regulated only where competitors are prevented from development or displaced, or they can no longer bring their performance on the market through their own efforts."<sup>22</sup> The courts gave four main reasons why this was not applicable: 1) publishers were still able to serve ads, though fewer than before; 2) publishers retained the ability to alter the delivery method(s) of their ads to prevent them from being blocked; 3) publishers could conceivably change their business model in order to make money through some other means; and 4) AdBlock Plus users chose to use the plugin voluntarily (Hou, 2017). Because the publishers in these cases "could not prove that the presence of AdBlock Plus threatened them to remove them from the market...it was not an infringement under the German law" (Hou, 2017).

The Frankfurt court, hearing a similar argument, offered a very different option. Notably, this case occurred after Germany's competition law had been amended. In 2016, German media group Axel Springer filed an injunction against AdBlock Plus, again claiming that the

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<sup>21</sup> Gesetz gegen den unlauteren Wettbewerb (UWG) § 4a Aggressive geschäftliche Handlungen

<sup>22</sup> LG Frankfurt, Az 3–06 O 105/15, 26 November 2015. Supra note 75, paragraph 40.

practice of adblocking itself should be considered illegal, and further claiming that this revised law protected them from having to pay to participate in AdBlock Plus's Acceptable Ads initiative. The court ruled that blocking advertising by means of a special software does not violate competition law. However, it did find that the whitelisting functionality of AdBlock Plus is an "unacceptable aggressive practice" as understood by the revised UWG § 4a. The court found that AdBlock Plus's control of both the filter list (blacklist) and the whitelist made it a technically restrictive barrier, allowing it to exert undue control over publishers' access to funding options (Müller, 2016). Furthermore, the whitelisting practice demanding payment from certain publishers "made its elimination of advertising selective, which was often unfair" (Hou, 2017). The final ruling prohibited AdBlock Plus from charging publishers to appear on its whitelist in Germany.<sup>23</sup>

Although the ruling in this case was very specific, it is the first step towards dismantling the largest adblocker's primary source of revenue. Eyeo, AdBlock Plus's parent company, plans to appeal the ruling, so the Bundesgerichtshof (the German supreme court) will have the final say in this case (O'Reilly & Reuters, 2016). Most importantly, this ruling sets an important precedent for future rulings as it "recognizes the inequity of what Adblock Plus is doing, which is capitalizing on consumer free will and behavior for their own commercial purposes" (Southern, 2016).

## Analysis

It is not surprising that the first legal tests against adblocking have come from Germany. If rates of adblocking continue to rise throughout the rest of Europe, other member states may try their luck in court. As AdBlock Plus's parent company Eyeo is a German corporation, and because AdBlock Plus is used by individuals throughout EU member states, it may be possible that these cases would be determined by an EU court. Such a case would have far-reaching consequences within the EU.

In terms of whitelisting, suing the adblockers based on unfair competition is an attractive option as success would render the adblockers' primary revenue stream unviable. However, the likelihood of success in either the US or other EU member states is minimal. As seen in Germany, it is difficult to prove that any single adblocker has enough market dominance to truly monopolize a market. Furthermore, as users must actively install the adblocker, courts are reluctant to rule against consumer choice. Another consideration is national law; it was only

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<sup>23</sup> Rechtsprechung - OLG Köln, 24.06.2016 - 6 U 149/15

after altering a consumer protection law that the courts ruled in favor of publishers. If publishers on the EU level or within the US wish to find a similar solution, it is first necessary to adjust the legal environment to include protections against a business that exerts unacceptable influence in the form of aggressive commercial actions.

## Circumvention Practices

Circumvention is generally a two step process. First, publishers must construct some sort of technical barrier to restrict access to users who have not met the criteria to view the content, in this case an adblock wall. This commonly includes some language informing visitors that their access to content has been denied because an adblocker has been detected. Publishers can then instruct users how they may obtain access, either by disabling their adblocker or subsidizing their visit in some other way. Second, adblockers must develop a technical means to circumvent these publisher restrictions. This can be done in a number of ways, but the end result is that the user is granted full access to the publisher's content without disabling her adblocker.<sup>24</sup> This section will focus primarily on how the deliberate circumvention of publisher access requirements may violate certain copyright and contract laws. Issues relating to privacy concerns and claims of privacy infringement will also be discussed as a way to introduce methods for publishers to protect themselves against such claims.

### Background: Copyright Law

Copyright provisions within the US and the EU are quite similar, primarily due to the fact that laws in both areas were adopted to implement the World Intellectual Property Organization (WIPO) Copyright Treaty (WCT). WIPO is an agency of the United Nations comprised of 189 member states including the US and all EU member states. The WTC was established in 1996 and provides additional protections for copyrighted materials in the Internet age, including a prohibition against the circumvention of technological measures which protect copyrighted works. In the US especially, this prohibition offers a possibility to view adblockers as an illegal service.

Protections for copyrighted works in America are outlined in Title 17 of the United States Code (USC). The Digital Millennium Copyright Act (DMCA) became law in 1998 and amended Title 17 to include new provisions for copyrighted works online. Most notably, this new law

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<sup>24</sup> See section on Whitelisting within The Adblocker Ecosystem, above.

included a series of anti-circumvention provisions, the first of which states: “No person shall circumvent a technological measure that effectively controls access to a work protected under this title.”<sup>25</sup> The second provision states that the development or offering of a product or service whose primary function is to circumvent technological measures controlling access to a copyrighted work is similarly prohibited.<sup>26</sup> The code offers clarification for when a technological measure is circumvented, stating that this provision includes efforts to “descramble a scrambled work, to decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner.”<sup>27</sup> A technological measure is deemed to be effective in controlling access to a copyrighted work if it, “in the ordinary course of its operation, requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work.”<sup>28</sup>

European copyright protections are covered by the InfoSoc Directive, also called the Copyright Directive. Circumvention measures are a crucial component of the directive, as explained in Recital 47:

“Technological development will allow rightholders to make use of technological measures designed to prevent or restrict acts not authorised by the rightholders of any copyright, rights related to copyright or the sui generis right in databases. The danger, however, exists that illegal activities might be carried out in order to enable or facilitate the circumvention of the technical protection provided by these measures.”<sup>29</sup>

As such, the directive orders that “Member States shall provide adequate legal protection against the circumvention of any effective technological measures.”<sup>30</sup> Just as in the US, this provision states that products or services designed to help consumers circumvent technological measures are prohibited. The definitions of “technological measures” and “effective” are similarly parallel to the US code. There are a number of exemptions for when circumvention might be allowed, including for use in teaching and other non-commercial purposes, or within a review or for satirical purposes. Although there are many exemptions, some of which have been liberally interpreted, it would be difficult for adblockers to justify their activities under any of them.

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<sup>25</sup> 17 USC § 1201.a.1.A.

<sup>26</sup> 17 USC § 1201.a.2

<sup>27</sup> 17 USC § 1201.a.3.A.

<sup>28</sup> 17 USC § 1201.a.3.B.

<sup>29</sup> Directive 2001/29/EC. Recital 47.

<sup>30</sup> Directive 2001/29/EC. Article 6.1.

Adblockers could claim that they are protected under Recital 48 which states: “Such legal protection should...not prohibit those devices or activities which have a commercially significant purpose or use other than to circumvent the technical protection.”<sup>31</sup> Adblockers may say that because they provide a commercially valuable service to their customers, it is not an attempt at copyright infringement. However, the more technologically aggressive the software becomes at circumventing access restrictions, the less likely it is that they could successfully argue this position.

It is most likely that a browser plugin whose primary function is to block advertisements would be interpreted as a technological measure to circumvent advertising by means of avoiding, removing, and/or deactivating advertisements on webpages. However, by default most websites do not use advertising to control access to their content. For this law to be applicable, publishers must create some form of access control that is dependent on advertisements remaining active, as in the case of the adblocker wall.<sup>32</sup>

### Hypothetical Case: Copyright Circumvention

As discussed earlier, both the US and the EU have protections against circumventing an access control measure of a copyrighted work. In the US, this is regulated by the DMCA, and in the EU by the InfoSoc Directive, which both prohibit the circumvention of “effective technical measures.” From a copyright perspective, anti-circumvention claims are one of the strongest legal paths forward for publishers; some studies have focused on copyright infringement, but that can be challenging and poses certain risks.

In the US, it would be very difficult for publishers to claim that adblockers infringe upon a publisher's copyright. First, to file a claim of copyright infringement, the content itself must first be registered with the copyright office. Once a copyright is registered, it includes only the content contained in the original deposit. For publishers who update their websites frequently, they have the choice to file a copyright as a database or newsletter, which grants a three-month copyright (Gregory, 2009). However, even if the publisher's content is properly filed, it would still be difficult to prove that this copyright includes all the advertisements on their page. As noted earlier, most online ads come from third-party servers and are not the creative work of the publishers themselves; therefore it is difficult to prove that stripping away advertisements

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<sup>31</sup> Directive 2001/29/EC. Recital 48.

<sup>32</sup> See Appendix I

infringes on a publisher's copyright. For this reason, publishers may choose to pursue action claiming that adblockers circumvent their access control measures.

In this hypothetical case, a publisher would first need to have some sort of access control in place that "effectively controls access to a work."<sup>33</sup> The DMCA clarifies that this qualification is met if the access control "requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work."<sup>34</sup> Publishers who use a script to check if a user is running an adblocker can claim that their access control requires a process or treatment in the form of disabling the adblocker. Some critics have claimed that basic adblock walls are not a strong enough form of access control, but the courts have ruled that even weak encryption is still valid.

In *Universal City Studios, Inc. v. Reimerdes*, eight movie studios sued the owners of a website that had posted a software called DeCSS for public download. The DVDs released by the movie studios were encrypted using the Content Scramble System (CSS) which the courts ruled effectively controlled access to the content. DeCSS enabled users to unlock this encryption, allowing them to copy the material or play it on non-compliant devices. The website owners claimed that CSS should not constitute an effective access control because it was a weak form of encryption. The court rejected this argument, stating that "the statute would be meaningless if it protected only successful technological measures" (Besek, 2004, p. 408).

After publishers have demonstrated the existence of an effective access control measure, they would then need to show that an adblocker provided a technology that allowed users to circumvent this access. To prove this, an adblocker must be shown to be: 1) "primarily designed or produced for the purpose of circumventing a technological measure," 2) have "only limited commercially significant purpose or use other than to circumvent a technological measure", or 3) is marketed "for use in circumventing a technological measure".<sup>35</sup> Proving these requirements will depend on which specific adblocker is being targeted. Some adblockers do not offer adblock wall circumvention, so they would be poor targets for this sort of claim. Other adblockers specifically promote themselves as a means to avoid adblock walls. For example, Anti-adblock Killer is a script that users can install to complement their existing adblocker (AdBlock Plus, Adblock, etc.) that is specifically designed to circumvent adblock walls. Anti-adblock Killer fulfills all three requirements: it has been exclusively designed to circumvent

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<sup>33</sup> 17 USC § 1201.a.1.A.

<sup>34</sup> 17 USC § 1201.a.3.B.

<sup>35</sup> 17 USC § 1201.a.2.A-C.

adblock walls, it has no other commercial purpose, and it is marketed directly to users who wish to circumvent publisher access controls. The challenge will be in the case of an adblocker whose primary function is to block advertisements, but also includes a functionality to circumvent publisher access controls. However, it is necessary only to prove that a circumvention technology fulfills one of the three requirements. In this case, adblockers who promote their software as being able to circumvent adblock walls will be at risk. This scenario has not yet been tested in court and the details will need to come from the real life examples of specific adblockers, their technologies, and how they present their services in promotional materials.

As a final note, some critics have claimed that because the ads themselves are not copyrighted by the publishers, it should not matter if an adblocker circumvents access controls. The DMCA is a section of copyright law, and if copyright is not violated, then perhaps it does not apply. However, publishers are still within their rights to control access to their content on whichever grounds they choose, and technological circumvention is prohibited in all cases, “regardless of whether they constitute copyright infringement” (Stoel Rives LLP, 2002). Furthermore, publishers could claim that the content on their website is intended to appear with ads and that displaying a version without ads is an unauthorized derivative work.

Publishers who are interested in filing a claim against adblockers on circumvention grounds have a strong case. However, they must be sure the adblocker they target fulfills at least one of the three requirements qualifying them as a technological circumvention measure. These questions have not been tried in court and it remains to be seen how courts will interpret these specifics. It is most likely that such a question will be raised first in the US where there are a number of precedents involving the DMCA anti-circumvention restrictions. The results of this hypothetical case would be of interest to EU publishers, as European law is very similar to US law in this regard.

### Background: Contract Law

Publishers may also include language in their terms of use agreements stating that access to their content is dependent on the successful delivery of their advertisements, thus invoking contract law. There is no harmonized contract law within the EU; instead each Member State has its own contract law, governed by their own national bodies. The Commission on European Contract Law did create a set of model rules called The Principles of European Contract Law (PECL) which Member States are encouraged to follow. These principles seek to

harmonize national law within the EU by merging the most common practices of EU member states, offering a set of guiding principles for contract disputes between parties in different member states. The PECL also helps bridge the gap between EU and US contract law. There is no contract law at the federal level in the US, although most states have adopted the Uniform Commercial Code to harmonize the law of sales throughout the country. Much of US contract law derives from common law.

Electronic contracts are generally treated in the same way as their analogue counterparts. In the context of adblockers, contract law can be used to evaluate the roles each party is playing. When users visit a web page, they are entering into an agreement with that publisher. These agreements are typically published in the form of a Terms of Use and Privacy Policy document and have become ubiquitous online. Privacy Policies are useful for clearly outlining data protection concerns, while Terms of Use agreements cover a variety of topics regarding what conditions a user must fulfill in order to access the content, including intellectual property issues. Even though a user may not read through these documents, they are considered to be a binding contract and have full weight of law, as long as they are fair to the consumer.<sup>36</sup> In most cases, the penalty for a user violating the Terms of Use is denied access to the web content. Privacy Policies allow publishers to describe how they gather data and what that data will be used for, including any involvement of third party processors, and may be referenced by publishers when seeking consent to collect information from or deliver information to a user's device.

Publishers may be able to craft a defense that adblockers violate their website's Terms of Use, thus causing users to violate the contract they enter into when they direct their browser to a specific webpage. Of course, for this to apply, publishers must update their Terms of Use to include language about the right to access the content being dependent on viewing advertisements unimpeded. It may be necessary to elevate the visibility of these terms, forcing users to review and accept them when entering the site for the first time.

In Germany, one failed lawsuit against AdBlock Plus hinged on this criteria. The *Süddeutsche Zeitung*, Germany's largest daily newspaper, sued AdBlock Plus and lost. The judge in the case stated that users are entitled to install adblockers because "publishers have no contracts with their readers that insist they have to look at the ads" (Meyer, 2016). This ruling begs the question: if a website's Terms of Use can be considered a contract, and a publisher includes language clearly stating that a user's access requires the viewing of ads, would this be

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<sup>36</sup> As laid out in Directive 93/13/EEC.



enough to rule against an adblocker? In such a case, who would be culpable, the adblocker or the user?

Of course, it is worth noting that publishers, in general, are not interested in pursuing legal action against users. It is much more efficient for a publisher to file a claim against an adblocker, with the hope that a court's ruling might affect the nature of the publisher-adblocker relationship. Because publishers and adblockers do not enter into any sort of contract, there is no possibility to file for breach of contract. However, publishers do create contracts with users, as discussed above, and they also form contracts with their advertising partners. Publishers may be able to claim that users who block ads are violating the terms of their contract with the publishers, and that adblockers are the means by which they do so. In this case, publishers would claim that an adblocker had committed a tortious interference. A tortious interference "occurs when one party interferes with the contracts or relationships of another party with the intent of causing economic harm" (FindLaw, 2013). If an adblocker caused a breach of contract between publishers and users or between publishers and advertisers, this could be considered a tortious interference.<sup>37</sup>

### Hypothetical Case: Tortious Interference

The German judge who ruled that users have the right to block ads because "publishers have no contracts with their readers that insist they have to look at the ads" was correct (Meyer, 2016). However, the goal for publishers is not to target users directly; that is likely to be as unsuccessful as it is logistically challenging. Publishers must rather focus on adblockers themselves and how their technologies are harmful to publishers. A successful defense using contract law requires publishers to demonstrate that adblockers interfere with the contracts publishers hold with their users and their advertising partners. One option is to cite tortious interference, which occurs when someone interferes with or harms a contractual relationship, causing economic harm. For tortious interference to occur, it is necessary to show that one or more parties has violated the contract terms as a result of this interference.

In the context of adblocking, a hypothetical case would look something like this: a publisher and an advertiser form a contract for the publisher to deliver a certain number of ad impressions to its users. While the campaign is running, the advertiser learns that the publisher has a high number of users who visit the site with an adblocker enabled. Because of this information, the advertiser refuses to pay the publisher, claiming its ads were blocked in

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<sup>37</sup> See section below. Hypothetical Case: Tortious Interference

violation of the contract terms. The publisher responds that refusing to pay is a breach of contract and is then able to sue the adblocker for tortious interference.

Although the details vary by jurisdiction, in general, to prove that the adblocker committed tortious interference, the publisher must demonstrate: 1) that there was a contract in place; 2) the interference was committed intentionally and maliciously; 3) the adblocker was not a member of the contractual relationship; 4) the breach of contract was a result of the interference; and 5) the interference caused economic damage (Vallade, 2009).

The first and third requirements are simple; publishers and advertisers frequently enter into formal, legally valid contracts, and adblockers are certainly not included within them. The second requirement could be a challenge, as it is difficult to prove that an adblocker acted either intentionally or out of malice. Adblockers do not target individual websites; they block ads indiscriminately on all web pages, therefore it would be difficult to prove that an adblocker intended to harm a specific publisher. However, if the publisher could show that the adblocker enabled a user to violate their contract with the publisher (by blocking ads in violation of the website's terms of use), and that violation caused the advertiser to refuse payment, it could then claim that the adblocker contributed to this particular infringement. This argument has not been tried in court, however, so the results of this line of argumentation are untested. The criterion of maliciousness is also difficult to prove due to adblockers' indiscriminate nature. Nevertheless, the single-purposeness of the software could be used as evidence that the technology itself is malicious towards all web publishers. This is another argument that would need to be tried in the courts, as "maliciousness can only be determined on a case-by-case basis" (Vallade, 2009, p. 845).

The fourth and fifth requirements are similarly open to some interpretation. It may be difficult to prove that an adblocker intended to interfere with a specific contract between a publisher and an advertiser, but if such a contract is breached with the adblocker named as a contributing or instigating factor, a court may decide that the end result is indistinguishable. If "an advertiser feel[s] compelled to breach its contract with a Web site because it believes its ads are being blocked, it follows that the Web site could successfully show the adblocking software interfered to such a degree that it caused the Web site to suffer an economic loss" (Vallade, 2009, p. 848). Proving that the adblocker's interference caused the publisher to suffer damages would require the courts to agree that the advertiser broke its contract with the publisher due to the adblocker's interference. This would require the advertiser to prove that one specific adblocker was the cause of their visitors' ability to block ads. Although it is possible to track

adblocker usage online, the technology often does not include the ability to distinguish between different adblockers. Moreover, even though some adblockers are widely used, none has reached a level of true market dominance. This would make it difficult for the advertiser to claim that one specific adblock provider caused the non fulfillment of their ad campaign (Vallade, 2009).

Overall, this line of argumentation includes a number of claims that have not been tested in court. The relationship between users, publishers, advertisers, and adblockers is complex, and proving concepts such as intentionality and malice will be difficult. Before such a claim could be brought to court, it is first necessary for a contract between a publisher and an advertiser to be breached due to adblocker interference. So far, no such breach of contract has been filed, so the argumentation in this analysis remains purely hypothetical.

### Background: Privacy Law

Privacy is another area of consideration related to adblockers, especially within the context of circumvention practices. A publisher's ability to detect if a visitor is using an adblocker necessarily means that the publisher must run certain technical scans of a user's browsing technology, which some view as an invasion of privacy. Users have claimed privacy concerns as a primary motivation for installing an adblocker, so it benefits publishers to address these concerns from both a legal and commercial perspective. This legal analysis has not focused on privacy-related issues because the nature of these issues is between publishers and users and this analysis focuses instead on the legal concerns between publishers and adblockers. However, it is worth mentioning that publishers are well-advised to understand the legal frameworks in the EU and the US, respectively, in order to best protect themselves from potential claims of privacy infringement.

The legal right to privacy is one area of law where EU and US precedents differ greatly. The right to privacy does not exist in any codified structure within US law, nor is it mentioned in the US constitution. Nevertheless, the concept has been contested in court, and certain rulings have argued that the right to privacy is protected in various places within US legal documents. The fourth amendment of the US Constitution states that "the right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated." Legal scholars argue that this would extend rights to digital properties as the modern equivalent of "papers."

In the EU, the right to privacy is protected in Articles 7 and 8 of the Charter of Fundamental Rights. Article 7 protects the respect for private and family life, and Article 8 bestows the right to the protection of personal data. Right now, most of the regulations governing personal data privacy are covered by the Data Protection Directive and the Directive on Privacy and Electronic Communications (ePrivacy Directive). The new General Data Protection Regulation, which is due to go into effect in May, 2018, will supersede the Data Protection Directive.

The ePrivacy Directive, also called the Cookie Directive, includes the provision that “the storing of information, or the gaining of access to information already stored, in the terminal equipment of a subscriber or user is only allowed on condition that the subscriber or user concerned has given his or her consent.”<sup>38</sup> This provision has been used as an argument that publishers are violating their users’ privacy when they use a detection script to determine whether a user has an adblocker enabled.

Alexander Hanff, a privacy advocate, wrote a letter to the European Commission requesting clarification on the scope of Article 5(3) of the ePrivacy Directive and whether it could be interpreted to include the local storage of scripts as well as cookies. The European Commission’s response makes it clear that such storage would be prohibited without the explicit consent of the user. Hanff has used this response to bolster his campaign against adblock walls and has threatened to pursue further litigation against publishers (Thomson, 2016). However, many have criticized Hanff’s letter for being misleading, and the European Commission’s response for being uninformed on the nature of script storage. One critic explains:

“All website data including images, text, CSS and some JavaScript are stored in the browser cache with every visit. To be clear: The very act of browsing the web is one and the same as the act of storing and accessing locally stored data via the cache. On any standard web browser window, to browse is to store” (BlockAdBlock, 2016).

The European Commission’s response betrays a fundamental misunderstanding of how browsers function. Web publishers use scripts to detect the language of a browser, the size of the browsing window, the type and version of the browser, and much more. This is standard behavior, and the ability to detect an adblocking plugin is technologically no different than these other, common detections.

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<sup>38</sup> Directive 2002/58/EC. Article 5(3).

Additionally, even if the commission were to determine that adblocker detection does violate Article 5(3), that provision also includes exceptions. The article itself states: “This shall not prevent any technical storage or access...as strictly necessary in order to provide an information society service explicitly requested by the subscriber or user.”<sup>39</sup> For publishers who depend entirely on ad revenue to finance their businesses, adblocker detection could be determined to be “strictly necessary,” especially when in the context of a user explicitly requesting content via navigating to a publisher’s web page. To strengthen their defense using this exception, a publisher could amend its listed Terms of Use and/or Privacy Policy to include language on their use of scripts to determine browser functionalities. Users in the US will face fewer risks than those in the EU, but so long as European publishers strive to maintain clear Terms of Use and Privacy Policies, there is little serious risk for a claim of privacy infringement for running an adblocker-detection script.

## Analysis

For publishers interested in seeking a court-based solution to their adblocking problem, there are a few options. The strongest case would likely require publishers to take action to defend their practice of displaying ads to users and clarify the nature of the transactional relationship between users, content, and ads. Publishers who take proactive measures to prevent adblocking on their own pages stand the best chance in court. These measures would include updating their Terms and Conditions to clarify that a user’s access to content depends on their viewing ads, and the technological circumvention of viewing ads is strictly prohibited. Publishers can also update their Privacy Policy to include language about how they check if a user is currently using some form of adblocking technology. Finally, publishers can display an adblock wall informing users of their Terms and Conditions, directing them to their Privacy Policy, and stating that bypassing the wall with their adblocker enabled is a violation of their copyright. Copyright law would likely be a publisher’s best chance for legal defense. In the US, the DMCA clearly protects publishers against technological circumvention intended to violate copyright, with similar protections in the EU InfoSoc Directive.

Privacy advocates seeking a defense against intrusive checks into their browser settings from publishers will have more luck in the EU than the US. Their victory will depend on their ability to prove that for publishers to enact their adblock walls they must use a script that is

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<sup>39</sup> For a more detailed explanation of these exceptions, see Opinion 04/2012 on Cookie Consent Exemption.

downloaded to a user's terminal without the user's consent. There is enough ambiguity in the current ePrivacy Directive that this point can be hotly contested. However, the ePrivacy Directive is currently being revised, and the latest version offers more clarity.

The amendments offered by Directive 2006/24/EC and Directive 2009/136/EC state that "devices" such as cookies "can be a legitimate and useful tool, for example, in analysing the effectiveness of website design and advertising."<sup>40</sup> Such technological measures are appropriate as long as users are fully informed and have the opportunity to refuse to store the cookie or other device on their terminal. The provision also clarifies that "access to specific website content may still be made conditional on the well-informed acceptance of a cookie or similar device, if it is used for a legitimate purpose." Once this directive goes into effect, privacy advocates will have less flexibility to claim that publishers are infringing on users' rights by installing adblock walls, so long as publishers are adhering to the conditions set forth above.

## Conclusion

Although there are numerous options for publishers looking to explore legal recourse, for now, even the groups most keen to see adblockers fail are staying away from suing adblockers. The Interactive Ad Bureau (IAB), an international advertising business organization, has conducted extensive research into the reach and growth of adblockers. As part of this research, it has outlined a series of potential next steps, including suing all of the major adblock providers. The IAB has consulted with their legal counsel, but so far they have no plans to pursue a legal retaliation; such an action is still considered to be the "nuclear option" and the IAB is moving forward with plans to address issues of access to content as well as the Coalition for Better Ads recommendations (Peterson, 2015).

As much damage as adblockers have the potential to cause (and have already caused), publishers are aware that users choose to install an adblocker as a reaction to what users perceive to be unfair advertising practices. Blatantly disregarding user preference by directly attacking adblockers is seen as a risky move, potentially resulting in a user base even angrier and more motivated to try to circumvent ads than before. Legal scholars predict publishers and other media groups will explore other avenues of reconciliation first: "Even major companies like Google have chosen to partner with companies like Adblock Plus instead of fight them...The

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<sup>40</sup> Directive 2002/58/EC as amended by Directive 2006/24/EC and Directive 2009/136/EC (unofficially consolidated version)

fallout from taking a adblocker to court from most companies would be enormous and likely cause more harm than good, even if victorious” (Saltman, 2015).

The multi-faceted nature of adblocking requires a multi-faceted legal approach. As discussed, there are many areas of law that are relevant to different adblocking practices. The European Data Protection Supervisor presented a report examining the common areas within data protection, competition, and consumer protection; this report calls for increased cooperation between regulators and experts in order to promote clarity, aid enforcement, and promote innovation.<sup>41</sup> A multi-disciplinary legal examination would be a step towards understanding how publishers might pursue legal action and what the likely results of such action would be.

For now, the one court-house victory has been very limited in applicability. That decision hinged on a specific national law in Germany, and the court ruling affected only one adblocker. In a market that has many adblocking options, it is not sufficient to weaken or disable one adblocker, even if it is the most widely used adblocker at the time of litigation. Ultimately, due to the high costs and risks of litigation, publishers may decide that non-legal actions are their best opportunity (Vallade, 2009).

## V. Business Implications of Adblockers

This section explores two groups involved in the adblock experience: users and publishers. The first portion synthesizes the results of thirteen different studies, reports, and whitepapers that deal with the rise and motivation of adblock users, as described in the Methodology section (see Table 3). The second portion presents the results of two qualitative interviews conducted with representative publishers (see Table 2). The results of these two data sets are analyzed within the context of equity theory. Current and potential alternatives to adblocking are explored and reviewed within the context of the previous findings. Finally, theoretical and practical implications are discussed.

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<sup>41</sup> European Data Protection Supervisor, Preliminary Opinion on Privacy and competitiveness in the age of big data: The interplay between data protection, competition law and consumer protection in the Digital Economy (2014)

## Why users block ads

To understand the business implications of adblocking, it is first important to understand who uses an adblocker and why. According to the most recent survey, 11% of internet users worldwide use an adblocker across a total of 615 million devices (PageFair, 2017). From 2015 to 2016, the number of adblock users worldwide grew by 30%, with a majority of new users living in emerging markets in Asia (C3Research, 2016). The rate of growth varies greatly by geography, and different studies present alternative predictions for how users will continue to adopt the technology.

In the US, one study reported that 26% of all survey participants were using an adblocker currently, and 20% reported that they had used an adblocker in the past but had either uninstalled or disabled it (C3Research, 2016). Another study gave a more conservative number, measuring only 18% of US internet users actively using an adblocker (PageFair, 2017). In the UK, 22% of adult internet users actively use an adblocker, with men using adblockers at approximately twice the rate of women (IAB UK & YouGov, 2016).

Within the EU, the highest rates of adblockers are found in Greece (39%), Germany (29%), Sweden (27%), Denmark (25%), Finland (23%), and Spain (19%) (PageFair, 2017). A comparison of the same study conducted in three different countries (Germany, France, and the US) shows how internet users perceive the disruptiveness of advertising (see Table 4). Somewhat surprisingly, respondents in France reported being much more disrupted by ads than their counterparts in Germany and the US, despite their adoption of adblockers being much lower (11%).

The most likely users of adblockers were men between 18 and 34, accounting for approximately 33% of all adblock users; the least likely users of adblockers were women over 55, accounting for approximately 8% of adblock users (C3Research, 2016). Internet users between 18-24 had the highest rate of use among all age demographics, at 47% (IAB UK & YouGov, 2016). Men in all age groups were more likely to use adblockers than similarly-grouped women. One study showed a correlation between adblock usage and level of education in the US: “Adblock users in the US are 1.5x as likely to have a bachelor’s degree than the average American adult, increasing to 3x as likely among 18-24 year olds. Pronounced adblock usage among college-age respondents points to campuses as a major vector for adblock adoption” (PageFair, 2017). This corresponds to the most common methods users cite



for first discovering an adblocker; 37% of adblock users learned about the software from a friend, colleague, or family member (PageFair, 2017).

Mobile adblocking, though still less prominent than adblocking on desktops or laptops, is growing quickly, especially in emerging markets. 309 million people worldwide use an adblocker on a mobile device, accounting for 16% of global smartphone users (PageFair, 2016). North American and European users, however, are trailing behind Asian users; 27% of internet users in Asia-Pacific are using mobile adblockers (PageFair, 2016). This has been attributed to high data costs forcing users to prioritize data-saving measures like adblocking as well as a greater proliferation of devices, operating systems, and apps to facilitate mobile adblocking. Rates of mobile adblocking in western markets are predicted to increase as more developers and manufacturers offer adblocking features (PageFair, 2016).

24.6% of smartphone users in the US and the UK have installed a browser or app with adblocking capabilities, though this does not necessarily mean they use it actively or at all (Tune, 2016). Depending on which solution a user chooses, it may or may not be active across different browsing applications. For example, if a user downloads a mobile browser with built-in adblocking, but then visits a website via the Facebook app, that user will still see ads.

In one study, 67% of smartphone users in the US were aware of mobile adblocking services, but had never used them, and only 15% had installed a mobile adblocker (C3Research, 2016). Among current adblock users in the UK, 41% use it on a desktop, 72% on a laptop, 21% on a tablet, and 26% on a smartphone; year-over-year adblocker usage has grown across all devices except desktop, which saw a decrease of 6% (IAB UK & YouGov, 2016).

One of the most common motivations for installing an adblocker, across geographical area and device type, is the feeling that ads are too intrusive. 43% of all adblock users in the UK reported that their primary reason for using an adblocker is to block all kinds of ads, and 45% responded that they would be less likely to use an adblocker if advertising did not interfere with their internet browsing experience (IAB UK & YouGov, 2016). 51% of adblock users said they first installed an adblocker because some websites had particularly annoying ads (Gladly, 2016). In a US study, 29% of adblock users said they had installed an adblocker primarily due to interruptive ad formats (PageFair, 2017). In a multi-national study, 64% of respondents installed an adblocker because “ads are annoying/intrusive” (HubSpot, 2016). On desktop computers, two of the most frequently cited reasons for using an adblocker were “sites are easier to navigate without ads” and “sites are visually pleasing without ads” (C3Research, 2016).

Disruptive advertising is an obvious motivation for users to install an adblocker, but it is also one that advertisers and publishers can most easily correct. A number of studies have been conducted on what types of advertising users consider to be most disruptive (see Table 4). These studies were limited to carefully selected ad formats and excluded some of the more intrusive ad types and placements. Of the ads that were compared, users in three different countries agreed that pop-up ads were the most disruptive, with banner ads that wrap around the page and animated ad banners coming in either second or third. The least disruptive ad formats were text ads on search-results pages followed by conservative<sup>42</sup> ad banners.

<b>Table 4. Ad Disruptiveness Perceptions by Country?<sup>43</sup></b>			
<b>Question</b>	<b>France</b>	<b>Germany</b>	<b>USA</b>
<b>Percentage of people who find online ads disruptive or very disruptive</b>	56.5%	41.8%	45.3%
<b>Most disruptive ad formats<sup>44</sup></b>	Pop-up (81.3)	Pop-up (77.2)	Pop-up (78.1)
	Banner ad wraparound (71.4)	Banner ad wraparound (69.6)	Animated ad banner (69.6)
	Animated ad banner (70.2)	Animated ad banner (65.5)	Banner ad wraparound (68.0)
<b>Least disruptive ad formats</b>	Search-results text ad (20.2)	Search-results text ad (17.8)	Search-results text ad (20.4)
	Conservative ad banner (24)	Conservative ad banner (19.5)	Conservative ad banner (20.5)
	Text ad below content (28.2)	Text ad below content (22.6)	Text ad next to content (23.7)

Other studies included additional ad formats and results differed concerning which types of ads were most disruptive. About half of the studies showed that pop-up ads were most disliked; in one study, 73% of users responded that they dislike pop-up ads that require them to click an “x” to close them (HubSpot, 2016). In other studies, interruptive ad formats such as video ads without a skip button and long video ads before short video content were considered the worst (C3Research, 2016). Among US adblock users, 31% most disliked non-skippable

<sup>42</sup> Example shown to users was of a static ad banner with soft colors and no provocative imagery.

<sup>43</sup> Data compiled from three reports published jointly by AdBlock Plus & EYEO in 2015.

<sup>44</sup> Participants were asked to rank how disruptive various forms of advertising appear to them, on a scale from 1-100, with 100 being most disruptive.

video ads, while 23% cited auto-play audio and video ads as the worst offenders, and 52% of users said they preferred static banner ads above all other formats (PageFair, 2017).

In an interview, one respondent summarized this perspective: “I hate something that interrupts my content. I hate something that I have to watch. I noticed something the other day that I saw for the first time ever: an ad popped up in the middle of a video that you can't skip” (C3Research, 2016). Across all studies, it is clear that interruptive ad formats, particularly videos, are some of the most disruptive and most disliked by users. Advertisers and publishers should pay close attention to this, because 85% of adblock users agree or strongly agree with the statement “obnoxious or intrusive ads give me a poor opinion of the websites that allow them” (HubSpot, 2016).

Users were also asked which ads were the least disruptive. In one study, users responded that relevant ads, such as ads related to products a user has viewed previously, were least annoying (C3Research, 2016). One user responded, “I don't think ads are bad. I don't think there are bad ads. I think there are less appealing ads. There are less relevant ads” (C3Research, 2016). Relevance, personalization, and ad format are all important factors in how disruptive an ad is perceived to be.

Personalization, such as in the case of a retargeted ad, may increase relevance, but for some users it causes distress over privacy and security concerns. In one study, 30% of adblock users said they had installed an adblocker due to security concerns, while another study listed that number at 39% (PageFair, 2017; Hubspot, 2016). Other users view adblocking as an effective tool to protect their privacy; 55% of mobile users responded that advertisers should not be allowed to collect any data at all (Tune, 2016). Especially for early adopters of adblock technologies, privacy was a key factor in initial installation. In a 2016 report, 32% of adblock users listed privacy concerns as their motivation for installing an adblocker, but in 2017, another study listed just 6% of users stating privacy was their primary motivation for using an adblocker. This suggests that as more mainstream internet users install adblockers, the group's primary motivation shifts away from privacy and more toward ease of navigation.

Of course, privacy is still a concern for users who do not list it as their primary motivation. One user explained that privacy was a secondary concern to performance: “I enabled ad-blocking more for performance than privacy concerns. Once I checked a mobile website I was at, and it was making 42 separate calls to ad-tracking and delivering services” (Tune, 2016). The high number of external calls the website was making, potentially sharing the

user's data, was certainly a privacy concern, but more immediately it slowed down performance on the user's device.

Speed and performance are often secondary factors for why browsers use an adblocker. Both adblock users and non-users think the primary reason behind slow load times on a web page is due to ads taking too long to download (C3Research, 2016). This is especially true for mobile users who cite slow page load times and browsing experience as the top two reasons why they've installed an adblocker (C3Research, 2016). In one study, 21.8% of adblock users installed an adblocker to speed up their browsing experience, while another study cited 16% (Gladly, 2016; PageFair, 2017). Among mobile users, data usage is a concern. In one extreme example, a mobile webpage with ads weighed 16.3MB, compared to only 3.5MB without ads (Tune, 2016). Adblockers have been shown to reduce mobile data usage by 50% (PageFair & Adobe, 2016). In one study, 83% of both adblock users and non-users would like the option to block all ads on their mobile devices, evenly distributed across age groups (HubSpot, 2016).

For most users, adblocking is a conscious choice. Few machines come with an adblocker pre-installed, so users must decide to acquire and enable an adblocker. In this decision making process, it is important to ask what users consider the effects of that choice to be. 85% of adblock users and 63% of non users agreed that "adblocking has had a positive impact on consumers' internet experience" (HubSpot, 2016). However, 55.2% of adblockers said that they are conflicted because they dislike advertising but still understand that websites need it to make money (Gladly, 2016). These two opposing feelings—that adblocking improves their browsing experience, but is necessary for websites to operate—creates cognitive dissonance among users. A majority of adblocker users (77%) report that they feel "some guilt," while only 23% reported feeling no guilt at all (Gladly, 2016). 49% agree or strongly agree that "People who use adblockers need to be fair and pay for content some other way" (HubSpot, 2016).

Browsers justify their adblock usage in multiple ways: 51% agree with the statement "It is my internet experience and I want to be in control of it;" 51% cite convenience; 44% say "I expect content on demand without waiting 15-30 seconds for an ad to load or clicking through a pop-up;" 15% state that they do not care how websites make money; and 10% claim their adblock usage creates an incentive for advertisers to make better ads (HubSpot, 2016). The greatest number of users feel entitled to content at their convenience and under their control. Mobile users have different concerns and justifications for using adblockers. For some users,

their privacy concerns are paramount, while others focus on performance and speed, claiming that it is unfair for advertising to significantly slow down and impede their browsing experience.

So what does it take to convince an adblock user to turn off their adblocker? By far the most common reasons users have stopped using an adblocker are because they were blocked from seeing content or were shown messages asking them to turn off their adblocker to view content (C3Research, 2016). In the UK, 33% of users who have disabled or stopped using an adblocker did so because they switched to a new device, and 16% did so because they could not access some content with their adblocker activated (IAB UK & YouGov, 2016).

According to one survey, 32% of adblock users said nothing would make them turn off their adblocker because they “like having control” of their internet experience; 30% said they would turn off their adblocker if access to content was denied across multiple sites; 28% said they would turn off their adblocker for “a web with only non-intrusive ad formats;” 24% said they would turn off their adblocker if websites offered fewer ads for turning it off; and 15% said they would turn off their adblocker if websites offered fewer ads if you paid a subscription (HubSpot, 2016).

It is important here to distinguish between disabling an adblocker entirely—that is, removing it from the browser or device or turning it off universally—versus whitelisting individual websites. Users who said they would turn off their adblocker for websites who offer fewer ads as a reward for turning it off would only be incentivized to whitelist that individual website, whereas users who said they would turn off their adblocker if they were denied access across multiple sites would most likely choose to disable their adblocker completely. This is an important distinction because it illustrates how publishers can choose a strategy that either benefits them individually (“Turn off your adblocker for us and we’ll give you a ‘premium’ experience”) or collectively (“Turn off your adblocker or we’ll prevent you from viewing any content”). In the first example, users are incentivized to leave their adblockers enabled in the hope that a publisher will offer a reward for whitelisting them. In the second example, users may eventually grow frustrated from being denied access to content, leading them to disable their adblocker completely to avoid any future adblock walls.

Adblock walls are a mechanism various publishers have experimented with, and the results are mixed. In one US study, 90% of adblock users have encountered an adblock wall, and 74% of them reported having left a website when confronted with a wall; the only exception was when users considered a website to have valuable content that was unavailable elsewhere (PageFair, 2017). In a UK study, 39% said they would not switch their adblockers off at all, 31%

said they would disable it for their favorite websites, 19% said they would switch it off for some websites but not all, and 3% said they would disable it entirely (IAB UK & YouGov, 2016). In one international study, 16% of internet users said they would whitelist a website if the content were blocked (HubSpot, 2016). Notably, this statistic varied greatly by age with 42% of users under 25 reporting that they would whitelist a website versus only 14% of users 55 or older (HubSpot, 2016).

One user explained that adblock walls became so ubiquitous she chose to disable her adblocker entirely: “I’ve used [adblockers] in the past. I got annoyed with them because then the website people start figuring it out and making it so you can’t view the websites properly with adblockers, and I just didn’t care enough” (C3Research, 2016). For these users, being blocked from accessing content on multiple “valuable” websites was enough to convince them to disable their adblocker. According to one study, 59% of adblock users have whitelisted between one and four websites, 26% had whitelisted between five and nine websites, and 15% had whitelisted over ten websites (Gladly, 2016).

Some users whitelist websites for other reasons. In one study, 18% of adblockers agreed with the statement “I whitelist the websites that display reasonable and appropriate advertising” (HubSpot, 2016). Furthermore, 58.5% of adblock users said they whitelisted a website because they wanted to help support the website by viewing ads, with 56.8% responding that they understand that websites need ads to make money and so are willing to help by whitelisting their website (Gladly, 2016). Despite its effectiveness among some demographics, whitelisting can also have adverse effects. A significant 31.1% of adblock users said that forced whitelisting makes them angry and much less likely to use their website (Gladly, 2016). Publishers running adblock walls run a real risk of alienating their user base, especially if the underlying causes of dissatisfaction (annoying ad formats and placements, security and privacy concerns, overburdened data usage) have not been addressed.

A significant portion of adblock users are extremely reluctant to entirely disable their adblocker, but 77% agree or strongly agree that “I wish there was a way to ad-filter instead of adblock completely” and 68% said they are “fine with seeing ads, as long as they are not annoying” (HubSpot, 2016). The trouble is, most adblockers work by filtering out all websites and then allowing users to whitelist as desired. In this scenario, users are never exposed to ads on various websites which would allow them to judge whether the ads were annoying or not.

Of course, there are some users who are adamantly opposed to seeing ads. When faced with an adblock wall, 3.3% of adblock users responded that they would rather pay to access

content than see ads (Gladly, 2016). For these users, some publishers have experimented with subscriptions (annual) or mini-subscriptions (monthly or weekly), offering users ad-free or ad-light browsing experiences in return for payment. In an international study, 9% of internet users said they'd be willing to pay for content they enjoy, while 6% said they'd prefer to donate money directly to each website (HubSpot, 2016). Geographically, users in the US are more willing to pay for content; 45% have paid for content in the US versus 35% in UK, 26% in Germany, and 14% in France (HubSpot, 2016). Younger respondents in all areas are also more willing to pay for content (HubSpot, 2016).

However, paying for content is still a low preference for most users. In the UK, one study showed that 92% of internet users would not pay to browse a website ad-free (KPMG, 2016). From a user's perspective, paying for content on each website visited is not feasible; users are reluctant to support many different, often similar content-producers. And even those who do may still use an adblocker. In one study, 8% of respondents used an adblocker because they already pay publishers "directly or via adwalls" (HubSpot, 2016). For these users, paying for content and being served ads seemed unfair, and their use of an adblocker was justified.

## The Publisher Response

Two websites were examined to represent the perspectives of publishers in the US and the EU. The first, representing the EU, is Den Blå Avis (DBA), a classifieds platform in Denmark which connects buyers and sellers of all kinds of new and used products. DBA is a highly trafficked website, sitting at number 17 on the Alexa ranking for websites in Denmark, receiving approximately 8.5 million visits each month.<sup>45</sup> DBA runs programmatic display advertising through Google's AdSense as well as B2C ad listings directly via partner webshops who place their product listings contextually into DBA's product categories. Both buyers and sellers are able to use DBA's platform for free, so advertising is essential to generate revenue and cover costs for the website. Although the exact amount of revenue earned via advertising is not publicly available, it is a "significant amount" (J. Aavild, personal interview, 23 March, 2017). Jens Aavild is a Product Manager at DBA who focuses primarily on serving and optimizing ads on DBA. His role is to maximize the revenue generated from advertisements without negatively impacting the user experience on DBA.

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<sup>45</sup> Traffic estimated using <https://www.similarweb.com/>

The second publisher, representing the US, is Thought Catalog, an online magazine aimed at millennials. Thought Catalog receives approximately 22.8 million visitors a month<sup>46</sup> and depends almost entirely on ad revenue to stay afloat. There are two primary forms of ad deals on Thought Catalog: direct ad sales and programmatic ad sales. Direct ad sales come to Thought Catalog via product brands and marketing agencies who are looking to reach consumers in Thought Catalog's primary audience segments (millennials, young women, etc.). However, due to Thought Catalog's high traffic volume, it is not possible to sell all of their inventory via direct ad sales, so the remainder is auctioned off to programmatic ad partners.

For Thought Catalog, advertising is essential, accounting for "95 to 98 percent" of total revenue (C.C. Swartz, personal interview, 28 March, 2017). Cristina Calderon Swartz is the Director of Accounts & Ad Operations at Thought Catalog. She is in charge of the ad technology as well as maintaining Thought Catalog's relationships with both their programmatic ad partners and the brands and agencies that run direct campaigns through them. Swartz makes it clear that Thought Catalog's business model relies on advertising: "We are completely self-funded, and advertising on Thought Catalog is what helps pay our bills."

Both websites track adblock usage to monitor trends among their user base. DBA uses a service called Sourcepoint, which offers tools for publishers to monitor adblocking as well as display messages and alternate forms of advertising to users who do have an adblocker enabled. For now, DBA only uses it for analytics purposes. Thought Catalog uses Adblock Plus itself to get insight into how many of their visitors use an adblocker. Thought Catalog has been whitelisted by Adblock Plus and as such has access to its tracking and analytics services. Surprisingly, neither Swartz nor Aavild currently considers adblocking to be a problem for their respective websites.

The number of adblock users on both DBA and Thought Catalog has either plateaued or slightly decreased in the last year. On DBA, approximately 20% of their visitors on desktop or laptop devices use an adblocker, down from 22% in the previous year. On Thought Catalog, they also see the industry average among desktop users, between 20 and 25%, but this number has remained stable over the past year. Both Swartz and Aavild agree that there are two main reasons not to be worried about adblocking as it stands now: first, adblocking rates remain extremely low on mobile devices; and second, mobile usage is swiftly growing and taking over desktop visits, where adblock rates are highest. Because of these trends, neither DBA nor

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<sup>46</sup> Traffic estimated using <https://www.similarweb.com/>



Thought Catalog has any measures in place to block access to content or encourage their visitors to turn their adblockers off.

Swartz explains that while they do have high rates of adblocking on desktop, the overall rate across all devices is between 4 and 6%. The majority of Thought Catalog's ad inventory is delivered to mobile browsers, which helps them to avoid the environment with the highest adblocking rates. Swartz attributes their exceptionally high rate of mobile traffic to its demographic age: "We target millennials so everyone in our generation is using their phone. We're not as affected as some of the other publishers that are maybe relying on desktop traffic." However, Swartz is keeping her eye on these numbers. If mobile adblocking becomes more ubiquitous, it could pose a big problem for them: "if that number got closer to 20% then yeah, I'm assuming we would have to regroup and figure out a new strategy for that."

Aavild also reports extremely low rates of adblocking on mobile devices with less than 1% of mobile users blocking ads. As of March, 2017, mobile adblocking rates were at 0.4%, down from 0.7% the previous year. At the same time, mobile traffic on DBA is increasing, "so, right now, it's not a threat like it was talked into just a year ago," Aavild explains. "I think we were more nervous about it one and a half years ago when there were all these projections that in two years adblockers will be half—half the users will have adblockers. But that we haven't seen."

For now, both Aavild and Swartz are focused on optimizing the ads that do get served to their users. This is a balancing act between factors such as ad placement, ad format, ad content, and user engagement. The primary goal of ad optimization is to increase revenue. However, both DBA and Thought Catalog are aware that over-stuffing advertising on a page can negatively impact user engagement which leads to a decrease in ad revenue. "We weigh how the engagement of our users compares to the revenue," explains Aavild. "And if we make something that increases revenue but decreases users' engagement, we don't do it."

Advertisers and ad servers have an impact on how profitable different ad formats and placements are, which in turn influences how publishers display ads to their users. Advertisers are also concerned with getting their ads into premium placements and have started to offer more money for certain ad spots, particularly those above the fold. "They started paying us more when the banners were viewable," says Aavild. "And that makes us shift where and how many banners to serve." Google has also started to penalize websites for intrusive advertising such as serving a mobile interstitial on the first page load. "We obviously took that into

consideration,” says Swartz. “You won’t ever come to Thought Catalog and see an interstitial on your mobile device.”

Google’s update to its search algorithm penalizes websites (by lowering their organic search results rankings) that show a full-screen advertisement to users who are coming to the website from a Google search results page on mobile devices. This update was primarily motivated by a desire to increase user experience, and it acts as an incentive for publishers to avoid some of the more disruptive advertising techniques (Google, 2016). Google’s update is a good example of how publishers are influenced from both sides of the transaction; it is a challenge for publishers to balance the conflicting desires of advertisers and users and to weigh the consequences of rewards and penalties on both sides of the equation.

Aavild recognizes that it is essential to maintain the integrity of the DBA platform in order to keep users motivated to return, thus ensuring more ad impressions. To help maintain this balance, Swartz emphasizes Thought Catalog’s openness to user feedback. In one example, Thought Catalog experimented with a new video ad format which took over the page and prevented users from viewing Thought Catalog content before the video was done. “It was horrible, it was so annoying, and we had so many user complaints over those few weeks that we ran it, and we scratched it, completely scratched it from our plans,” says Swartz. “Never again are we allowed to do something like this.” Both Aavild and Swartz agree that ad placements need to harmonize with the rest of the site; alienating their user base is counterproductive for all parties involved.

In the future, both Aavild and Swartz are aware that the landscape has to change. The fight between adblockers and publishers is not sustainable, as each side prepares to ramp up its technology to either block or serve ads. “If we really want to we can serve the ads on the server side so it looks like it’s part of the core content,” explains Aavild. “And that makes it really hard to do blocking. But also we’re thinking that would just start...a weapons race.” This is one of the reasons DBA has decided not to put up an adblock wall. For Aavild, a user with an adblocker installed is sending a clear message. He questions the publisher’s right to force this ad experience on them, from a privacy perspective. “When people say no, do we really want to enforce this on them?” He continues, “There should also mention the legal aspect of it. What’s the legal aspect of people who say we want to block this but then you force them—that’s something we need to look into before we even start thinking about building things like [adblock walls].”

Swartz is also reluctant to block access to content, and accepts that users are blocking advertising for a reason. She emphasizes that multiple players are involved in serving ads, and sometimes publishers cannot control every aspect of that experience. “It’s not just the publisher’s fault...sometimes advertisers will provide us with these really clunky, heavy files that cause the user’s browser to crash or really slow down the site so you can’t even slow down or anything,” she explains. Publishers and advertisers share a responsibility to make advertising engaging for users. “We have to have publishers make the ads more appealing, more user-friendly, less intrusive, and the advertiser has to work with us so the ads we do put up on the page are going to do the same thing.”

There is no doubt that adblocking is changing the industry. Users have discovered that they can vote with their willingness to view ads, and smart publishers should pay attention. “If everybody starts installing adblockers then the whole landscape has to change,” says Swartz. “We have to find better ways of reaching our readers, our users. Advertisers will have to come together and do the same.” Overpowering users with unblockable ads is a losing battle; the only sustainable way forward is to address the underlying issues behind why users block ads in the first place.

“I recognize that for every user that chooses to block ads, DBA makes less revenue,” says Aavild. However, he is not worried about DBA’s future. “The business model will adapt to the situation continually...Businesses will always have a need for advertisement. In case adblocking really increases, advertisers will seek new ways to promote their offerings and DBA will figure out how to adjust. As Darwin said: ‘It is not the strongest of the species that survives but the most adaptable.’” Swartz agrees that advertising is not going away; adblocking should not pose a real threat to the advertising industry because “advertising dollars are not decreasing just because there’s more adblock out there. Brands and agencies are increasing even their budgets for digital advertising and it’s not going away.” The goal for publishers is not to circumvent adblock, but to make ad formats not impacted by adblockers more valuable. “There’s so much supply to go around, that even if there’s less demand, you make the demand,” she explains. “Or you make the demand more valuable.”

One place to start is with education. “I feel like people who are in the industry can understand it better than just a pure reader out there, because they don’t know what it takes to keep their website afloat,” says Swartz. She believes that if users truly understood the work and effort needed to maintain a website like Thought Catalog, they would be less likely to use an

adblocker. “Maybe a little bit of education is needed for them to completely understand...then maybe they’d be a little less likely to block the way that we make money.”

One area where Swartz and Aavild have very different perspectives is on the issue of whitelisting. Thought Catalog has been whitelisted by AdBlock Plus after complying with their acceptable ads guidelines, though they do not pay for this service. This means that AdBlock Plus users who visit Thought Catalog are still served some ads, though these are very limited in terms of placement, content, and cost. AdBlock Plus users will not be shown heavier, rich-media ads that may slow down the site upon load. However, somewhat ironically, the scripts used to check if a user has AdBlock Plus installed and then execute an alternate ad delivery also slow down the site slightly.

For Thought Catalog, it is important to be on the whitelist because it shows their commitment to delivering user-friendly advertising. That said, if a majority of their user base were only shown these AdBlock Plus approved ads, it would affect their business “tremendously...These ads pay us pennies versus solid dollars we’re making off the standard banners that we show,” explains Swartz. It would not be possible or sustainable for Thought Catalog to earn revenue solely through whitelisted ads.

DBA is not currently whitelisted by AdBlock Plus, and Aavild has a more skeptical view of whitelisting in general. “I think we should look at these ad blockers also like a kind of pirate,” he says. “I think you should consider it very much before you start paying these guys money for some rules they make. I don’t think it’s healthy that they govern stuff this way.”

Even though both Aavild and Swartz are sympathetic to users who feel overwhelmed and annoyed by online ads, they both agree that the current transaction between publisher and user is fair. On DBA, Aavild stresses that users are getting free access to a large platform with a robust service. “I think we sure help a lot of people out there connect to each other,” he explains. For buyers, “the only money they pay out of their pocket is what they hand over to the seller.” Swartz agrees that on Thought Catalog the transaction is fair because user experience is always a driving force in their decision-making process. “We do keep our users very much in mind when we’re building out these products, when we’re formalizing our advertising strategy,” says Swartz. “We always keep them in mind and we do take comments very seriously. In our case I do think that it’s a fair transaction.”

However, when adblocking enters the equation, the transaction is no longer so fair. Aavild acknowledges that while some users pay for their service via insertion fees and premium features, they are still not living up to their end of the deal by blocking ads. Swartz agrees that

blocking ads completely is “very unfair.” She continues, “it’s asking us to basically give you free content, a free magazine that you don’t have to pay for.” Swartz stresses that Thought Catalog is already free, and when users choose to block ads they are negating the implied business deal between publisher and reader. “We’re not even asking [users] to pay for anything,” Swartz emphasizes. “[They] just have to put up with looking at ads.”

Swartz and Aavild have a unique perspective; they both represent ad-dependent publishers, but at the same time they are also consumers of content on the internet. Both have experimented with using an adblocker for research purposes, but neither uses one regularly. “I’m a reader too, and I go on other sites and I get it,” says Swartz. “I put up with the annoying screen shift ads and interstitials and even pre-roll ads because at the end of the day I’m going to see something I want to see and read.” Aavild agrees that sometimes ads can get out of control. “I’ve been on some sites where the ads were so irritating that I hardly could read the paper,” he says. But still he does not use an ad blocker: “I have a professional interest in seeing how other sites are serving the ads. So I don’t think I’m representative.”

Regardless of the user’s behavior, DBA will remain free to adblock users and non-users alike. “Whether it is fair or not we don’t discuss or take it to heart,” says Aavild. “It is a premise of a site like ours to be available to everyone and anyone.” Thought Catalog also plans to remain open to all users, though Swartz wishes more readers would understand that “we do pay our writers, we do work hard to make sure we are providing good content out there.” Both Aavild and Swartz have first-hand knowledge of the amount of effort required to maintain their websites; their job is to make sure their users appreciate that value.

## Applying Equity Theory

“This is an ongoing cat-and-mouse game...I think we are moving into the empire strikes back phase ... the more you try to block the ads, the smarter they get about avoiding the blocking.”

— *Andrew Frank, VP and Analyst, Gartner*<sup>47</sup>

In an ideal setting, the relationship between users and publishers would be perceived to be equitable by both parties. However, as the rise of adblocker usage demonstrates, there are perceived inequities in their social exchange from both perspectives. Walster, Berscheld, and

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<sup>47</sup> Quoted in Tune, 2016.

Walster's (1973) propositions,<sup>48</sup> which so comprehensively describe the primary components of equity theory, provide a framework within which to explore the source of these inequities (see Table 5). The formula for calculating equity, presented in the same paper, may also be used to analyze the relative value and weight of the many inputs and outcomes described by users and publishers (see Table 6).

<b>Table 5: Application of Equity Theory Propositions</b>	
<b>Summary of Proposition<sup>49</sup></b>	<b>Application</b>
Groups reward members who behave equitably and punish those who do not, allowing groups to maximize collective reward.	<p>Users generally feel no responsibility towards each other, making the concept of the group not applicable. Furthermore, within the context of online content, users are aware that "taking more" does not leave other users "having less."</p> <p>However, publishers do see users as a group, and sometimes choose to punish users who behave inequitably.</p> <p>As more users block ads, publishers may be forced to resort to payment-based content, ultimately costing users more.</p>
Individuals will act to maximize their outcomes, even if this means behaving inequitably.	<p>Adblockers enable users to maximize their outcomes. Users care about uninterrupted access to valuable content, and adblockers help disable interruptive elements.</p> <p>Publishers may respond by setting up adblock walls and/or demanding payment for content.</p>
Participants in inequitable relationships feel distressed. Those who receive less than they deserve feel anger, while those who receive more than they deserve feel guilt.	<p>Internet users expressed varying levels of anger based on their reaction to the perceived increase in disruptiveness of online advertising. Some adblock users also experience guilt because they also believe publishers deserve to be paid for content.</p> <p>On the other side, publishers are distressed about lost (or the potential loss of) revenue due to adblocking.</p>
Participants in inequitable relationships try to eliminate distress by restoring equity.	<p>Users who are very disturbed by online advertising are more likely to seek equity by installing an adblocker. Adblock users may feel some guilt, but as Pritchard (1969) wrote, those who benefit from an inequitable relationship are less likely to seek equity than those who are disadvantaged by it.</p> <p>Publishers seek equity by setting up adblock walls, displaying messages to their users, and employing counter-adblock technologies to serve ads to adblock users.</p>

<sup>48</sup> See Theoretical Framework section, above.

<sup>49</sup> From Walster, Berscheld, and Walster (1973)

Equity theory states that individuals will generally work to maximize their outcomes; if they can do so within the confines of an equitable exchange, they will, but if they sense an opportunity to maximize their outcomes by behaving inequitably, they will exploit that. Furthermore, the perception of participating in an inequitable relationship leads to feelings of tension or distress, which participants will try to rectify through various means. Within the context of adblocking it is necessary to examine the inputs and outcomes of both parties within the transaction, namely users and publishers, as well as both states of the transaction, depending on the presence of an adblocker.

In the early days of the internet, users could maximize their outcomes simply by viewing content online. Content that used to be restricted to paying newspaper or magazine subscribers was now readily available online, for free to everyone. This was equitable as publishers were still developing their online business models, and the online advertising industry was still in its early days of text and static banner ads. Publishers were still able to make money off of their print subscriptions and ad sales. As online content consumption surpassed print media, and online-only media groups matured, however, the equation shifted. Publishers lost a significant amount of control over who had access to their content, though this was counterbalanced by a larger consumer reach, more efficient advertising, and increased insight into the demographics and browsing behaviors of their user base. Once adblockers came along, the equation shifted again. It became much easier for users to maximize their outcomes; they were still able to get free access to online content, but now without the distraction of banner ads or the concerns of tracking scripts.

Each of these shifts can be characterized by either users or publishers seeking to maximize their outcomes or minimize their inputs. To understand this, it is necessary to know what publishers and users consider their (actual or potential) inputs and outcomes (see Table 6). Users care about free access to valuable content, so transitioning to online consumption maximized that outcome. Publishers care about maximizing their ad revenue, so developing new systems for more efficient online advertising maximized that outcome. Users perceived that new forms of online advertising impacted their ability to access content, and so took steps to both maximize their outcomes and minimize their inputs by installing an adblocker. Publishers recognized this as a threat to their primary outcome, and took measures to counter adblocking, increasing their inputs by developing or investing in new technology in order to maximize their outcomes by securing additional ad revenue.

Users have a high quantity of inputs: in return for free content, and sometimes for paid content, users input their attention, personal information, browsing history, battery life, and data usage, often to third parties and without their explicit consent. Different users weigh their inputs differently; some users are very concerned with privacy, while others care more about user experience. The weight of user outcomes is similarly dependent on a user's subjective assessment. If the primary outcome for users is valuable content, then users themselves must decide what is valuable to them.

<b>Table 6: Inputs and Outcomes for Users and Publishers</b>	
User inputs: Low/high inputs	Publisher inputs: Low/high inputs
<ul style="list-style-type: none"> <li>• Attention to: Annoying ads (Design), Interruptive ads (UX), &amp; Irrelevant ads (Content)</li> <li>• Subscriptions/payments</li> <li>• Data usage</li> <li>• Battery life</li> <li>• Personal Information</li> <li>• Browsing history</li> <li>• Browsing speed</li> </ul>	<ul style="list-style-type: none"> <li>• Content production</li> <li>• Website maintenance</li> <li>• Technology development</li> <li>• Maintaining partnerships</li> <li>• Monitoring analytics, optimizing ads</li> </ul>
User Outcomes: Low/high outcomes depending on value of content	Publisher Outcomes: Low/high outcomes depending on traffic and value of advertisements
<ul style="list-style-type: none"> <li>• "Free" content</li> <li>• "Valuable" content</li> <li>• Unlimited access</li> <li>• Incentive for publishers to make better ads</li> </ul>	<ul style="list-style-type: none"> <li>• Ad revenue</li> <li>• Subscriptions/payments</li> <li>• User data</li> </ul>

Publishers have arguably fewer inputs, but the effort involved still results in most publishers perceiving themselves to have a high input into the transaction. In addition to producing original, valuable content, publishers must also develop and maintain the technologies that deliver that content, including advertising. It could be argued that publishers' attempts to minimize their inputs have backfired. As they worked to streamline advertising, making their own workflows more efficient and profitable, they sacrificed elements of the end user experience, contributing to the rise of adblocking. In the wake of adblocking, publishers now focus more on maximizing their outcomes by finding ways to optimize the effectiveness of their advertising, with the understanding that improved user experience directly contributes to that end result.



It is important to mention that the perceived value of inputs and outcomes is dependent on the perspective of the publisher or user. Users may interpret the relationship and say that they have high inputs and low outcomes (minimizing the value of the content they access) while publishers have low inputs (minimizing the costs of producing content) and high outcomes (maximizing the value of the payments and data they acquire). Conversely, publishers may perceive that they have high inputs and low outcomes while users have low inputs (minimizing the costs of viewing ads) and high outcomes (maximizing the value of the content).

While these inputs and outcomes are largely subjective, one thing is clear: the onus is on the publishers to maximize their inputs in terms of the value of the content they produce as well as the value of the advertisements they serve. Publishers may feel that their relationship with users in the presence of an adblocker is inequitable, but they are faced with a situation in which they cannot extract more value from them without significantly increasing their own inputs first. For now, users are not sufficiently motivated to stop using an adblocker; publishers must find a way to help users perceive a decrease in their inputs and an increase in their outcomes.

One option would be for publishers to capitalize on the adblock users who do perceive adblocking to be inequitable. 77% of users do admit to feeling some guilt; this signifies that they understand on some level that they are being overcompensated within this transaction (Gladly, 2016). Publishers can capitalize on these feelings of distress by educating their user base on how their content development is funded, as well as on how their advertising functions.<sup>50</sup> This is one method to convince an adblocker user to either whitelist a website or disable their adblocker completely. However, as Pritchard (1969) notes, participants who benefit from an inequitable relationship are less likely to seek to restore equity than those who are disadvantaged by it. Users may feel some distress over their perceived inequitable actions, yet many will not be motivated enough to rectify it as long as they feel they are being rewarded.

One example of this is how publishers behaved before the rise of adblockers. Publishers were, at least from the users' perspectives, being overcompensated within the transaction. They were demanding greater inputs from their users (more attention to bigger ads, more data collection, slower browsing speeds, etc.) in order to maximize their outcomes (more ad revenue, more user data) without increasing their inputs (better content, more transparent user agreements). As the beneficiary member of this inequitable transaction, publishers were not motivated to seek equity. As the disadvantaged member, users fought to restore equity and

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<sup>50</sup> See Appendix I

were able to minimize their inputs as well as minimize publishers' outcomes with the use of an adblocker.

## Alternatives to Adblocking

An education campaign to persuade users that it is morally superior to forego their adblocking practices is a good example of restoring cognitive equity. In this scenario, users would reframe their perceptions on the relative value and weight of the inputs and outcomes associated with online media and advertising and come to the conclusion that the transaction is in fact equitable. By understanding the high inputs and relatively low outcomes of publishers, users would no longer feel that their own inputs were too high for their outcomes.

There are also potential methods both sides of the transaction could employ to restore actual equity. There are five main types of solutions that participants may consider when attempting to rebalance the scales: anti-adblock technology, improving the advertising experience, new revenue models for conscious consumers, alternative ad formats, and legal options.

## Wait and See Approach

Before discussing concrete options publishers might explore to reduce the impact of adblocking, it is important to note that doing nothing is also an option. As discussed in the Publisher Response section, it is first important to decide if adblocking takes away enough revenue to warrant a response in the first place. If the amount of revenue lost does not necessitate a strong response, it may be prudent to continue monitoring adblock usage instead of investing prematurely in an alternative.

The two publishers interviewed both agree that the concept of adblocking is troubling, but so far the impact on their respective businesses has been low enough that they choose not to address it. They both acknowledge that mobile ads are an increasingly important revenue source, and mobile browsing is growing. As long as rates of mobile adblocking remain low, these publishers feel that their core revenue streams are not in jeopardy. Their own analytics suggest that users in their markets are not adopting mobile adblock technologies, so they have both chosen to accept the higher rates of desktop adblocking while mobile traffic grows to overtake desktop traffic.

However, other markets have much higher rates of mobile adblocking than are currently seen in the EU or the US, and some experts are predicting that western markets will soon start adopting these technologies (PageFair, 2016). It is important to note, however, that mobile adblock users in Asian markets are much more concerned with mobile data usage than their Western counterparts. This has been attributed to higher data costs and more restrictive access in Asian countries, so it may be that Western users are less motivated to contain their data usage via adblocking (PageFair, 2016). In light of this uncertainty, it is a valid strategic choice for publishers to continue monitoring their analytics and take no further steps towards reducing the impact of adblockers on their digital properties. For publishers who determine that adblocking is impactful enough to warrant immediate or future action, there are a number of options.

### Anti-adblock Technology

Anti-adblock technology exists today in the form of adblock walls and messages to adblock users. PageFair and Sourcepoint, both mentioned earlier, provide services to publishers to help them track adblock usage, serve messages to adblock users, and replace blocked ads. However, these technologies can escalate the tension felt by users as they navigate the web and may create a negative impression of the websites that use them. Furthermore, adblockers will continue to develop their technologies to circumvent these adblock-blockers, leaving publishers worried about an escalating arms-race of adblock-blocker-blocking and so on.

David Moore, the President of WPP Digital,<sup>51</sup> Chairman of Xaxis,<sup>52</sup> and Chairman of the IAB Tech Lab's board of directors,<sup>53</sup> proposed a solution that would draw upon the collective strength of online publishers: "I advocated for the top 100 websites to, beginning on the same day, not let anybody with adblockers turned on [to view their content]."<sup>54</sup> If users were simultaneously denied access to all of their favorite websites, that might be enough to compel them to disable their adblockers. The risk here is in the execution. It is unlikely that all publishers would agree to place a content wall at the same time due to its potential to alienate users. If some, but not all of the publishers place such a barrier, the websites who continue to

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<sup>51</sup> A digital marketing holding company

<sup>52</sup> Digital media platform and programmatic advertising provider

<sup>53</sup> The Internet Advertising Bureau's Tech lab is a nonprofit R&D center for the digital ad industry

<sup>54</sup> Quoted in Peterson (2015)

allow free access will be disproportionately advantaged. Moore himself acknowledged that it was “a good idea, but the possibility of pulling it off slim.”

### Improved Advertising Experience

One obvious place to start restoring equity is by reviewing the ad experience as perceived by users. Users have many complaints regarding the content, format, and delivery methods of digital ads. Publishers and advertisers can listen to their concerns in order to improve the overall user experience. Various trade groups and organizations have launched initiatives aimed at raising the overall quality of online advertising, across the industry.

The Interactive Advertising Bureau’s (IAB) Tech Lab presented its members with the LEAN principles for optimizing how members of the digital advertising supply chain create ads. LEAN stands for Light, Encrypted, AdChoice supported, and Non-invasive. “Light” refers to ads with limited file sizes that fit within pre-defined data usage guides. “Encrypted” means that end-user privacy and security are protected by calling for all ads to be served over HTTPS. “AdChoice supported” refers to the policies set forth by the Digital Advertising Alliance to offer transparency and control to users. And “non-invasive” clarifies that ads should strive to enhance the user experience and be minimally disruptive.<sup>55</sup>

The LEAN principles have been shared with adblock users to a generally positive response: “I think it should be the standard for any ad or website. The shaking, the blinking, the audio playing, off” (C3Research, 2016). Some users state that if these principles were enacted broadly, there would be no need for adblockers. “This [LEAN] is great. If all sites had a guarantee, like a seal of approval, I wouldn’t need to use an ad blocker” (C3Research, 2016). The problem here, as with the pan-publisher adblock wall, is in implementation. Publishers have no formal regulating body; they may choose to join trade organizations like the IAB, but that is purely voluntary. For every “good” publisher who embraces these rules, more publishers will still seek to exploit users’ ad experiences for increased monetization, compelling most users to keep or start using an adblocker. This is one challenge in how most adblockers function; they automatically filter all ads and allow users to whitelist acceptable websites. This is slightly paradoxical, however, as how are users to identify which websites serve acceptable ads if they all get filtered out? One option is a new model of adblock filtering.

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<sup>55</sup>IAB Tech Lab Lean principles: <https://iabtechlab.com/specifications-guidelines/ad-blocking/lean/>

## New Revenue Models for the Conscious Consumer

Unlike traditional adblockers that universally block all ads on all domains, this adblocker would start with no filter. Upon installation, the software blocks nothing, allowing all ads to be served as normal. While browsing, users may choose to “blacklist” websites that they feel are serving annoying, aggressive, or intrusive ads. This blacklist function would notify the publisher so they may take steps to address what users have identified as problematic advertising.

In this “innocent until proven guilty” model, users can support websites that serve responsible ads while still retaining the ability to block unwanted advertising. This may be a preferred solution for users who feel guilty for blocking ads on their favorite websites, but still refuse to browse the internet without any adblocking protection.

Another option for these users are two new platforms that seek to provide a similar service: Brave and Flattr. Brave is a proposed browser, currently in beta testing, that has built-in adblocking capabilities, but works to compensate publishers by offering them micropayments. Brave users set a monthly budget which is then automatically allocated to the websites they visit. The creators of Brave promote it as a “quest to save the web” by protecting users and still enabling publishers to monetize their content.<sup>56</sup> Publishers do not need to sign up to get paid; once their websites have earned over \$100 they are automatically notified and instructed on how to collect payment. The concept offers an innovative solution to the adblocking problem, attempting to create a scenario in which both users and publishers minimize their inputs while maximizing their outcomes. The main question is how users will adopt the technology. Most users today are still very reluctant to pay for content. It remains to be seen if enough users will allocate enough of a monthly budget to offset the cost of lost advertising revenue for publishers.

Flattr is a browser extension that offers a similar service to Brave. It allows users to set a monthly budget and allocates micropayments to websites that users choose to “flattr.” Users determine which content they want to support and Flattr facilitates the payments. Flattr offers the flexibility for users to support content on a micro-level; users are able to send payments to creators of all kinds of content from “blogs, photography and comics, to tweets, digital art and podcasts.”<sup>57</sup> Unlike Brave, content producers need to sign up with Flattr in order to be compensated, so two-sided user adoption is critical. Like Brave, Flattr offers an innovative solution for users to support content they appreciate, but its adoption rates have been low.

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<sup>56</sup> Quoted on <https://brave.com/publishers.html>

<sup>57</sup> Quoted on <https://flattr.com/>

Though the service has been available since 2010, it has not provided a practical or realistic alternative for publishers. However, this may soon change as Eyeo, parent company of Adblock Plus, acquired Flatr in April, 2017 (Ha, 2017). The initial plans indicate that Eyeo is interested in using Flatr to offer micropayments to publishers whom their users have adblocked, very similarly to Brave.

### Alternate Ad Formats

Online advertising today is similar to email advertising in the 90s and early 2000s. “Consumers were so inundated by irrelevant, intrusive email marketing messages (better known as spam) that technology was called on to block everything coming from businesses, particularly from well known 3rd party emailing businesses” (CXENSE, 2015). Spam filters have effectively eliminated unwanted marketing emails from third party senders, but email marketing is still an effective advertising tool. As it has become more regulated and secure, users are more willing to share their personal information in order to receive more relevant content.

With so many users showing a concern over how their personal data is used and the security of third party advertising, it’s clear that more regulation and transparency is needed. As in the case with email marketing, users are more comfortable sharing personal information with first-party providers (publishers). Some studies have called for “premium publishers” to abandon third-party and programmatic advertising completely, refocus on user experience, and then leverage their increased user engagement into direct ad placements (CXENSE, 2015). This could be in the form of traditional, brand-created advertisements, or it could be as native advertisements, created by the publisher’s own editorial team.

Native ads may be either advertiser-created “advertorial” content styled to look like the rest of the content on a publisher’s webpage, or it may be true native content created by publishers and sponsored by an advertiser. Native ads are typically less intrusive and disruptive than other ad formats and are paid for by advertisers at higher rates. Although native advertising currently accounts for a small portion of the overall ad market, it is projected to grow in the coming years (Piltch, 2015).

Another method for publishers to display first-party advertisements is through e-commerce referrals. Publishers may link to third party websites from their own content pieces and collect a referral fee from any purchases their users make based on that referral. This method has limited applications as not all publishers will be able to recommend products, and not all visitors will purchase something with every visit (Piltch, 2015).

## Legal options

The legal analysis presented three methods for publishers to seek legal action against adblockers. First, publishers can claim that the whitelisting practices of some adblockers are anti-competitive, especially when only some publishers are required to pay to become whitelisted. This has the advantage of pursuing an action that could impact an adblocker's primary revenue source. However, this is a risky legal approach as there are few laws on the EU or US level that would show such practices to be truly anti-competitive. If these areas of law were further developed either through case law or amendments to extant law, then publishers might consider this avenue more favorably.

The second legal option is for publishers to claim that adblockers who circumvent adblock walls are in violation of the anti-circumvention laws present in both the US and the EU. In this case publishers must be careful to ensure that they have established an effective form of access control and that the adblocker they address is in violation of one of the technological circumvention measures.

The third legal option is for a publisher to sue an adblocker for tortious interference. This would require a contractual relationship between the publisher and a third party (most likely an advertiser or ad partner) to be breached due to the actions of an adblocker. The risk inherent is that a court may be unwilling to attribute intentionality or maliciousness to an adblock provider.

Finally, publishers should be informed about how their anti-adblock technologies impact user privacy. Publishers should take care to update their privacy policies and terms of use with clear language and proactively communicate these updates to their user base.

Publishers should consider how a legal action against adblockers will affect the perceptions of their users. Ultimately, publishers may determine that legal recourse is not their best option for reducing the impact adblocking has on their business.

## Discussion

### Practical implications

As discussed in the Alternatives to Adblock section above, this study proposes a number of practical options publishers can employ in their fight against adblocking. Publishers may seek to educate users on how adblocking harms them and the steps they have taken to protect their

users' ad experience in an effort to get their users to reframe their perceptions of the publisher-user relationship. In this effort, publishers may choose to block access to their content for adblock users, though they should be aware of the potential backfire effect. Publishers may also choose to circumvent the problem of adblocking by exploring other solutions such as partnerships with platforms proposing new publisher revenue models and alternative ad formats that do not get blocked by standard adblockers.

Alternately, publishers may explore legal options to weaken the strength and reach of adblockers. As discussed above, certain practices of adblocking expose adblockers to claims of anti-competitive behavior, copyright circumvention, and tortious interference. Publishers who wish to pursue legal action against adblockers may decide that one or a combination of these arguments will be most likely to succeed.

Before any of these options are considered, however, this study makes it clear that publishers will benefit from understanding why users block ads in the first place. Users are frustrated by the increased burden new forms of advertising demands of them. They are concerned about security, privacy, and data usage in addition to feeling aggravated by distracting and interruptive ad formats. This knowledge should inform future decision-making and help guide publishers as they seek to develop sustainable and equitable revenue streams. The findings and proposals put forth in this study may be interesting to professionals within publishing, advertising/marketing, user experience, and ad technology, as well as for products and brands who advertise online.

## Theoretical implications

This study takes equity theory, originally developed in the 1960s within the context of the workplace, and applies it to a digital context. In the workplace, inputs and outcomes are often finite resources or results; one individual's reward (promotion, salary increase) necessarily means another individual's lack of reward. However, online advertising is a non-finite system. Programmatic advertising allows publishers to sell nearly infinite ad inventory, limited only by how many visitors view their pages. One user's access to a site has no impact on another user. Similarly, one publisher's number or calibre of visitors has almost no impact on another publisher.

Another difference between the origins of equity theory and its modern application is the idea of collective reward and group pressure. Early theorists proposed that groups would



develop systems to incentivize equitable behavior and punish inequitable behavior. This concept is difficult to test or prove within a context as large, amorphous, and anonymous as internet users, especially when dealing with non-depletable goods such as online content and services. This area of the theory may benefit from revision within a modern day application.

This study shows that the underlying principles of equity theory are applicable to digital situations. However, further studies are needed to explore the applicability of equity theory to online groups. Such studies should specifically focus on how the quality of anonymity factors into participants' perceptions of guilt and fairness. One area to study might be how users interpret the perceived risk of legal sanction online and how this in turn affects their overall perception of equity and/or their motivation to restore equity, especially with a modifying factor of anonymity.

## Limitations

Analyzing the data within the framework of equity theory posed some limitations. If a data point could not be understood as either an input or outcome, it was difficult to incorporate it into the final discussion. The theory's origins within the workplace were sometimes difficult to translate into the modern, nebulous context of the internet, especially in the case of collective reward and social comparison. Nevertheless, equity theory offers a useful and practical framework within which to explain, analyze, and understand the relationship between publishers and users.

Some limitations from this study came from the data collection methods. The archival study relied on secondary data about the popularity and perception of adblocking among users. These studies varied greatly in terms of sample size, demographic makeup, survey questions, and methodology, so comparison proved difficult for some data points. Some data points were only reported in one study, making them impossible to compare or verify. Furthermore, some of these studies were either paid for or conducted by groups who also create and distribute adblocking technologies, creating a risk for potential bias. However, this method allowed for the greatest amount of data to be analyzed across the widest possible group of participants, and it yielded valuable insights.

Within the qualitative analysis, data collection was limited due to time and resource restraints. Two expert interviews were conducted and yielded deep and interesting results. However, these results have limited applicability due to the extremely small sample size.

Increasing the number of interviews with publishers, and expanding this data collection to users, could have produced deeper and more applicable insights. These interviews provided some of the strongest connections between the data and the theoretical framework; additional interviews could have strengthened this relationship.

Within the legal analysis, the lack of relevant case law was a limitation. With the exception of a few lawsuits in Germany, there are no court cases on record in the EU or the US directly targeting adblockers. This lack of case law can be attributed to a few possible conditions. First, it could signify that the practices associated with adblocking are not illegal, thereby resulting in few lawsuits. Second, the legality of certain practices may be unclear, but publishers or other groups may believe their case to be unlikely to win in a court of law. Third, the lack of case law in this area may simply be a result of the relative newness of adblocking technologies; there has not yet been time for groups to strategize their legal arguments and bring a case to court. Without case law, ideas about the applicability of certain laws remained largely speculative. This rendered much of the discussion hypothetical, yet this is a valid method of legal analysis.

## Future work

Future work within this field could seek to expand and clarify the application of equity theory to online groups. Updating the theory to provide additional frameworks to understand how online groups organize and exert pressure on each other would help make equity theory more applicable in the modern day.

Other studies could focus on an analysis of the technologies and solutions outlined in the Alternatives to Adblocking section. Understanding how publishers and users perceive new revenue models such as micro-payments and donations would help project the likelihood of success for these ventures. Publishers in particular could use this information to diversify their revenue streams and avoid future disaster if adblocking does grow enough to cause them harm.

Within the legal analysis, a deeper investigation into the laws most likely to protect publishers against adblockers would provide valuable information. Each of the areas of law discussed (competition law, copyright law, contract law, and privacy law) is worthy of individual, comparative, or multi-disciplinary study in greater detail. Publishers would benefit from a concrete understanding of steps they could take to protect themselves against both adblockers and users who may claim that advertising is a violation of their online privacy. Opportunities for collective action could also be explored.

## VI. Conclusion

This study examined the underlying causes behind adblock adoption as well as the publisher response to this growing threat. Equity Theory provided a theoretical framework to analyze the relationship between publishers and users. Data from 13 different adblocking studies as well as two qualitative interviews were presented to understand the issue more comprehensively. A comparative legal analysis explored the options for publishers to take legal action against adblockers and to defend themselves against potential litigation or complaints. The results offer an explanation for how and why users and publishers perceive their relationship to be inequitable as well as potential solutions in the form of new revenue models and technologies that may alter the fundamental relationship between content producers and content consumers.

Publishers who are concerned about the effect adblocking does or will exert on their revenue should first understand why users block ads. Users do not install an adblocker to deprive a publisher of ad revenue; they do so because the format and content of digital advertising has grown overwhelmingly intrusive. Without this fundamental understanding, publishers may fall into the trap of fighting adblocking with escalating access-control technologies, exacerbating the inequity of the user-publisher relationship, and alienating their user base. Users are not unilaterally opposed to supporting online content, whether in the form of viewing ads or via subscriptions, payments, or donations. However, users have high expectations for what that content should offer and are very sensitive to surreptitious methods of extracting value from them such as personal data collection or tracking.

The responsibility for addressing this crisis of advertising lies with publishers. They are the ones who interact directly with both users and advertisers. They supply the inventory and control the supply. To restore equity, publishers must follow a multi-faceted approach through a combination of developing innovative and user-friendly ad methods, experimenting with alternative revenue streams, and pursuing legal action against adblockers who threaten to overwhelm the ecosystem with adblock users. Finding an equitable alternative for publishers to continue producing content that is subsidized by users is essential, especially within the context of news organizations. Publishers and advertisers both contribute to and benefit from their complex relationship; the key is to find a balance that enables both sides to perceive the relationship as equitable.

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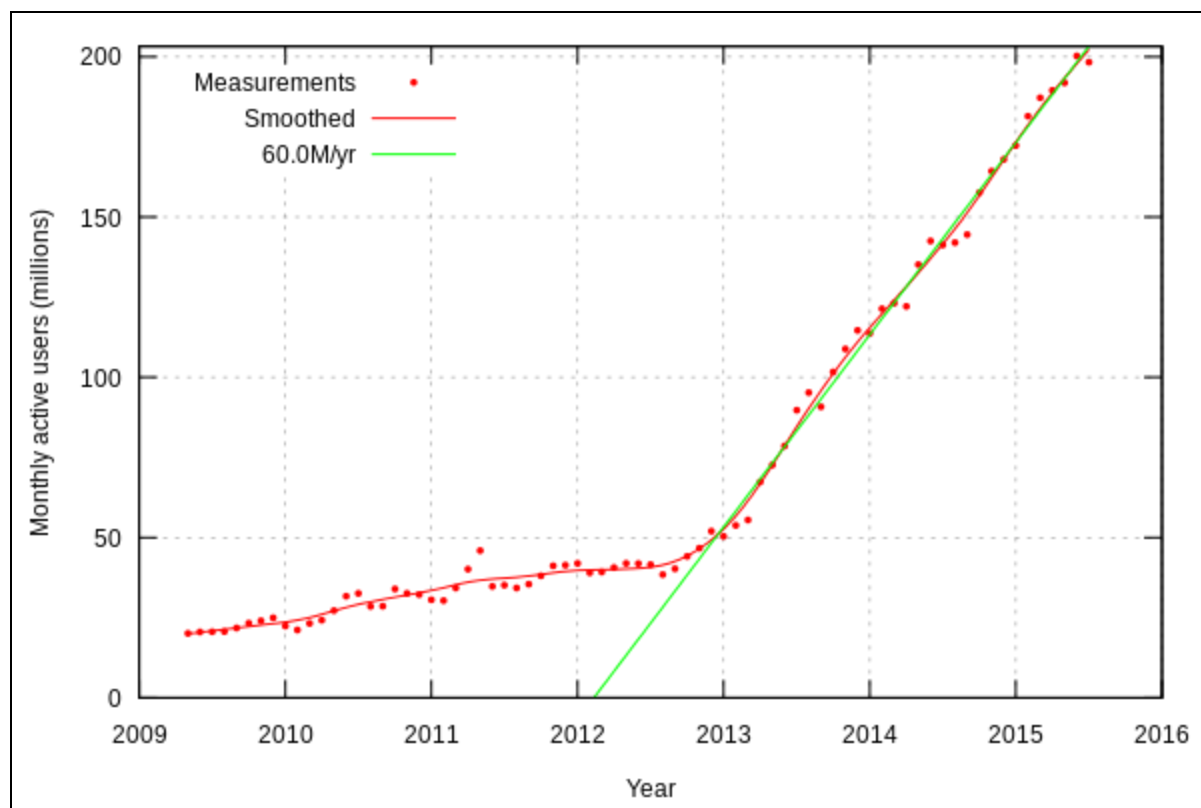
## VIII. Appendices

### APPENDIX A. ECONOMIC COST OF BLOCKING ADS



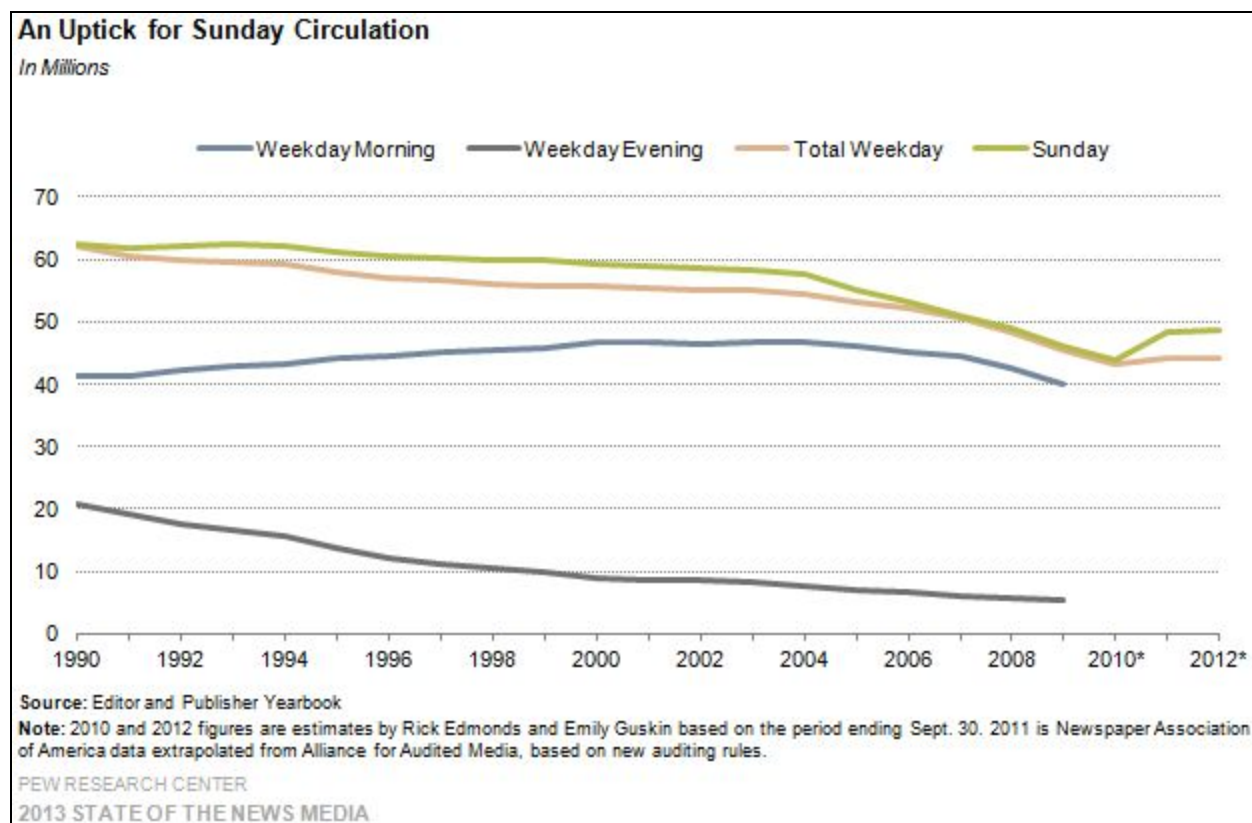
Source: PageFair & Adobe Report, 2015

## APPENDIX B. NUMBER OF ADBLOCK USERS OVER TIME

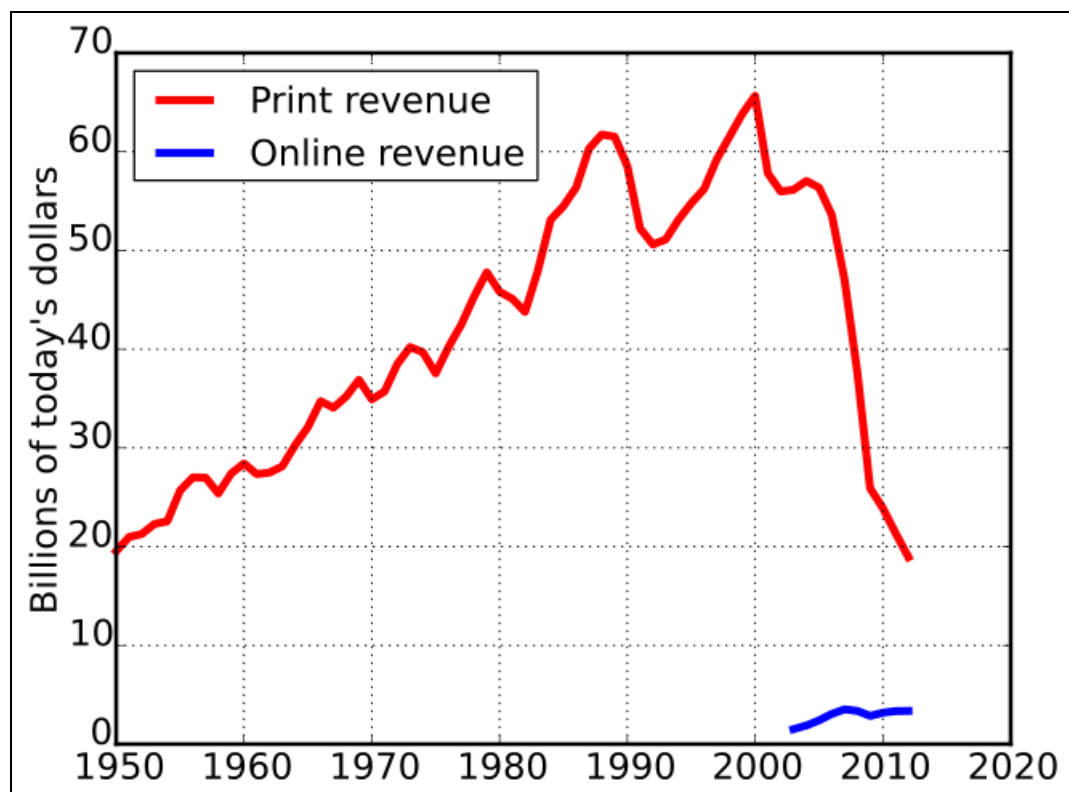


Source: PageFair

## APPENDIX C. NEWSPAPER SUBSCRIPTIONS OVER TIME

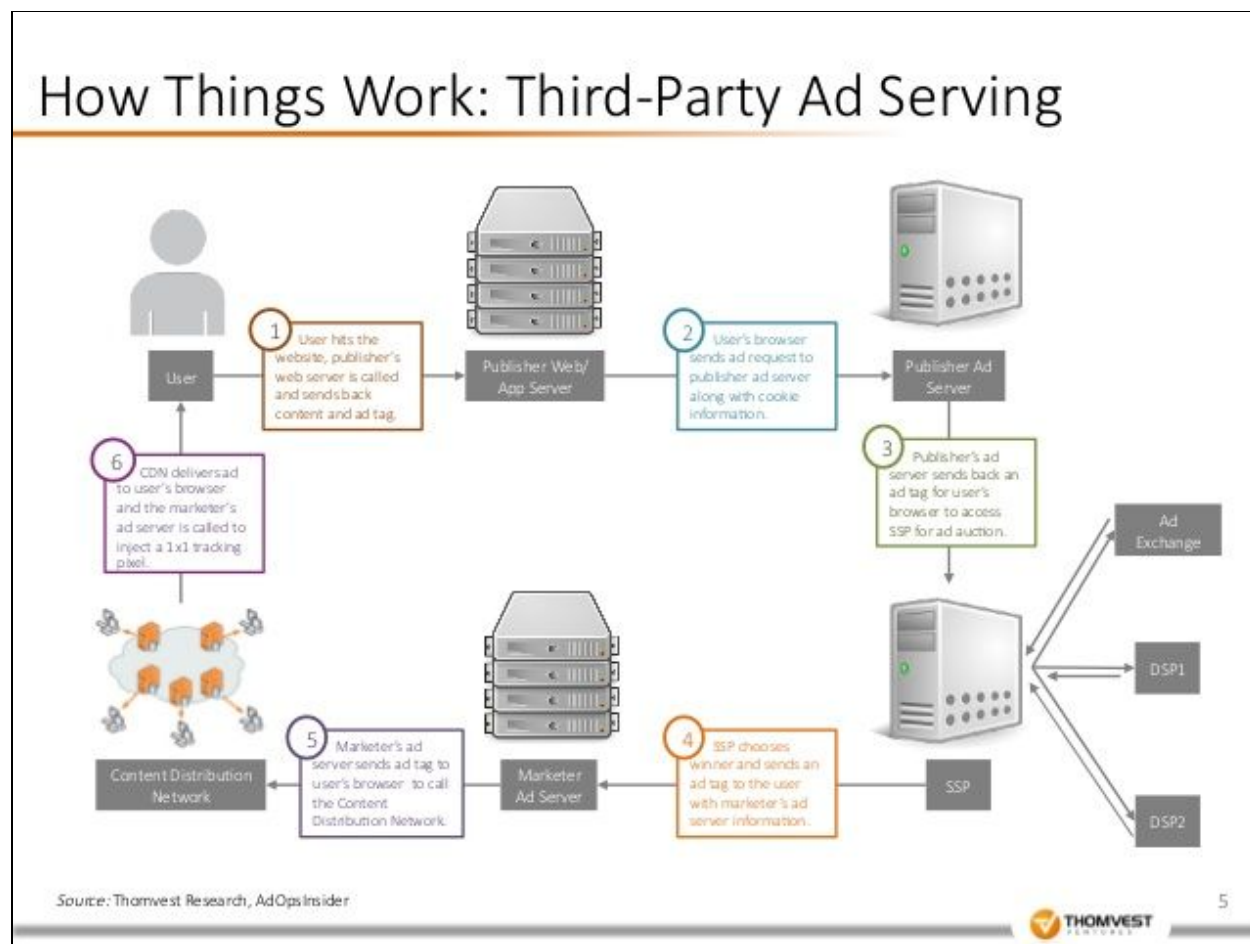


## APPENDIX D. NEWSPAPER AD REVENUE OVER TIME

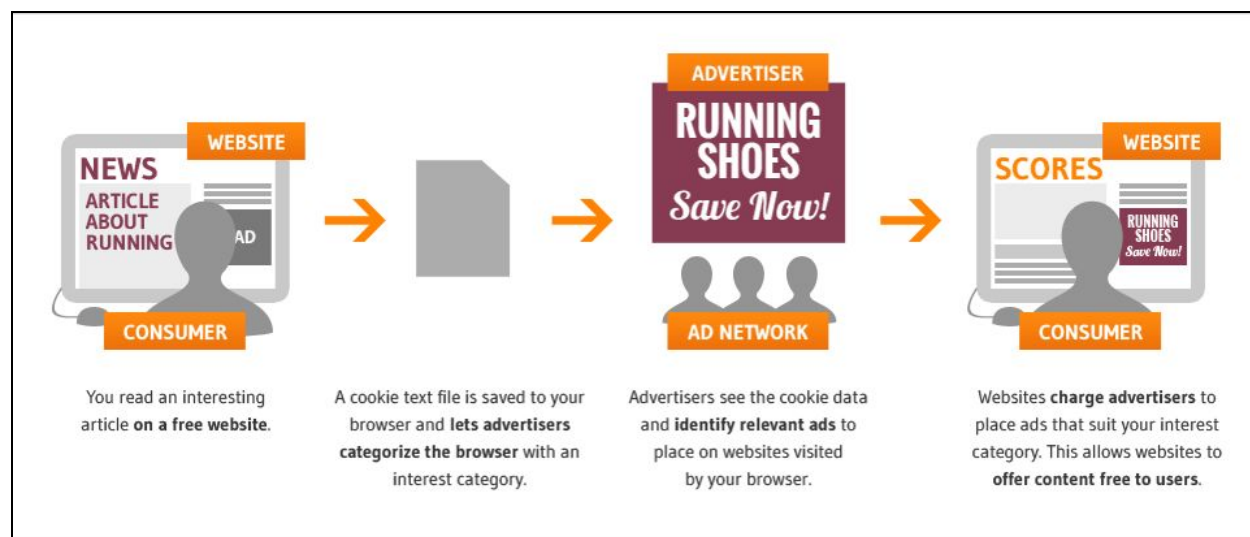


Source: Newspaper Association of America, 2012

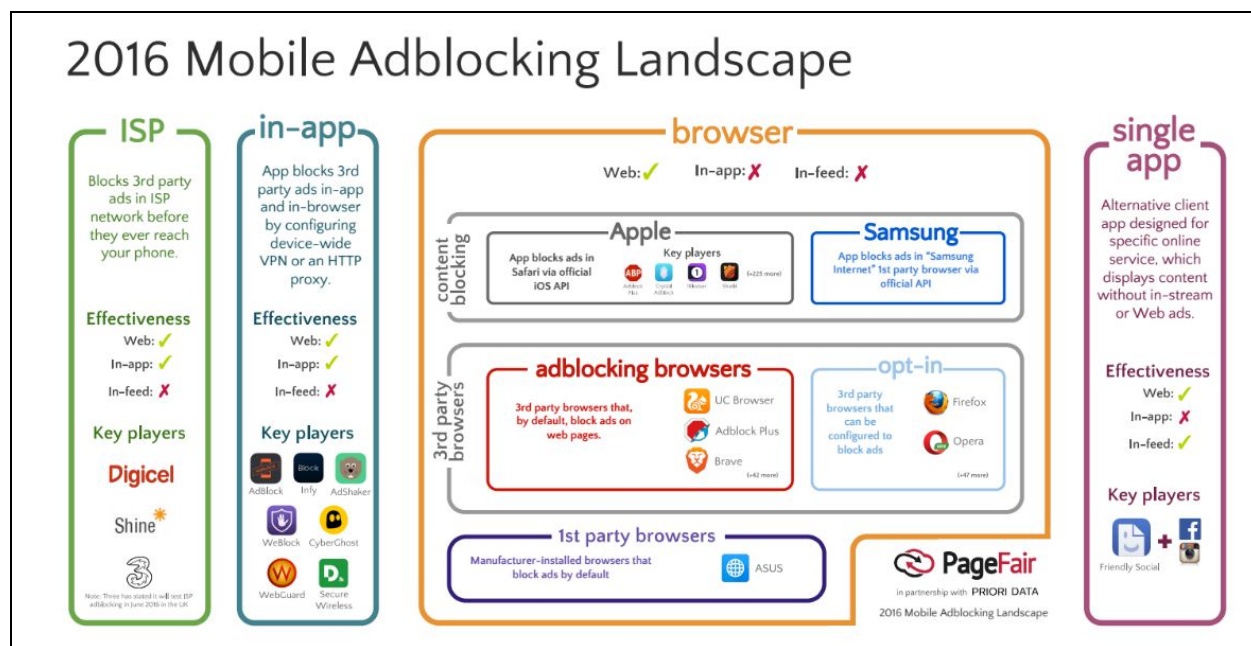
## APPENDIX E. HOW DIGITAL ADVERTISING WORKS



## HOW TARGETED ADVERTISING WORKS

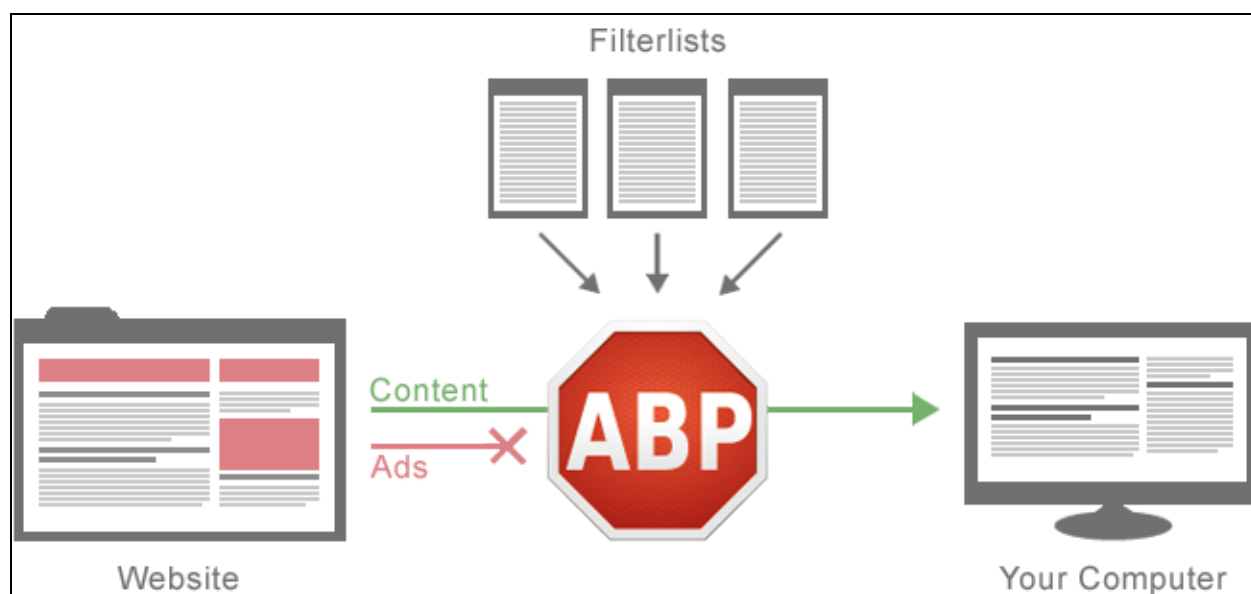
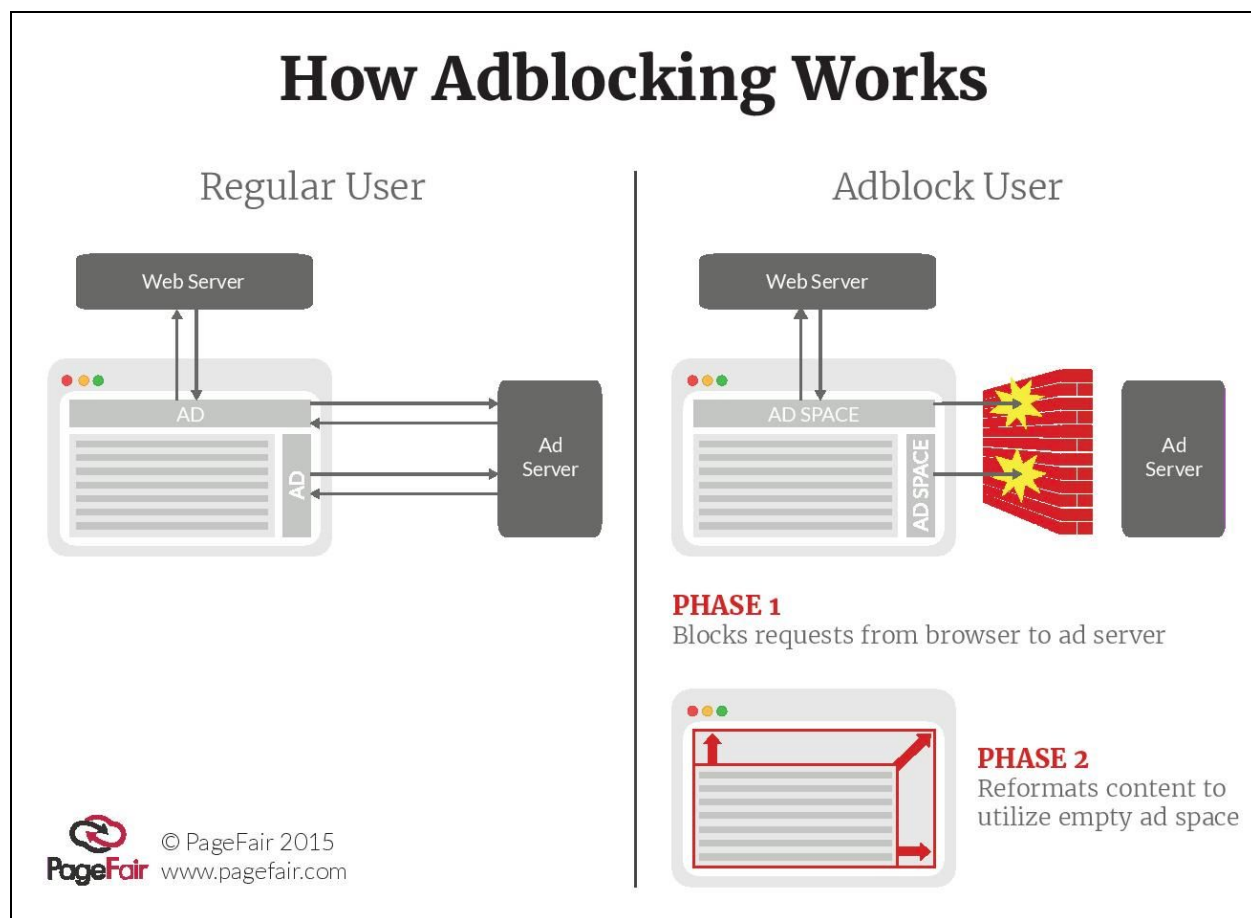


## APPENDIX F. MOBILE ADBLOCKING LANDSCAPE



Source: PageFair 2016 Mobile Adblocking Report

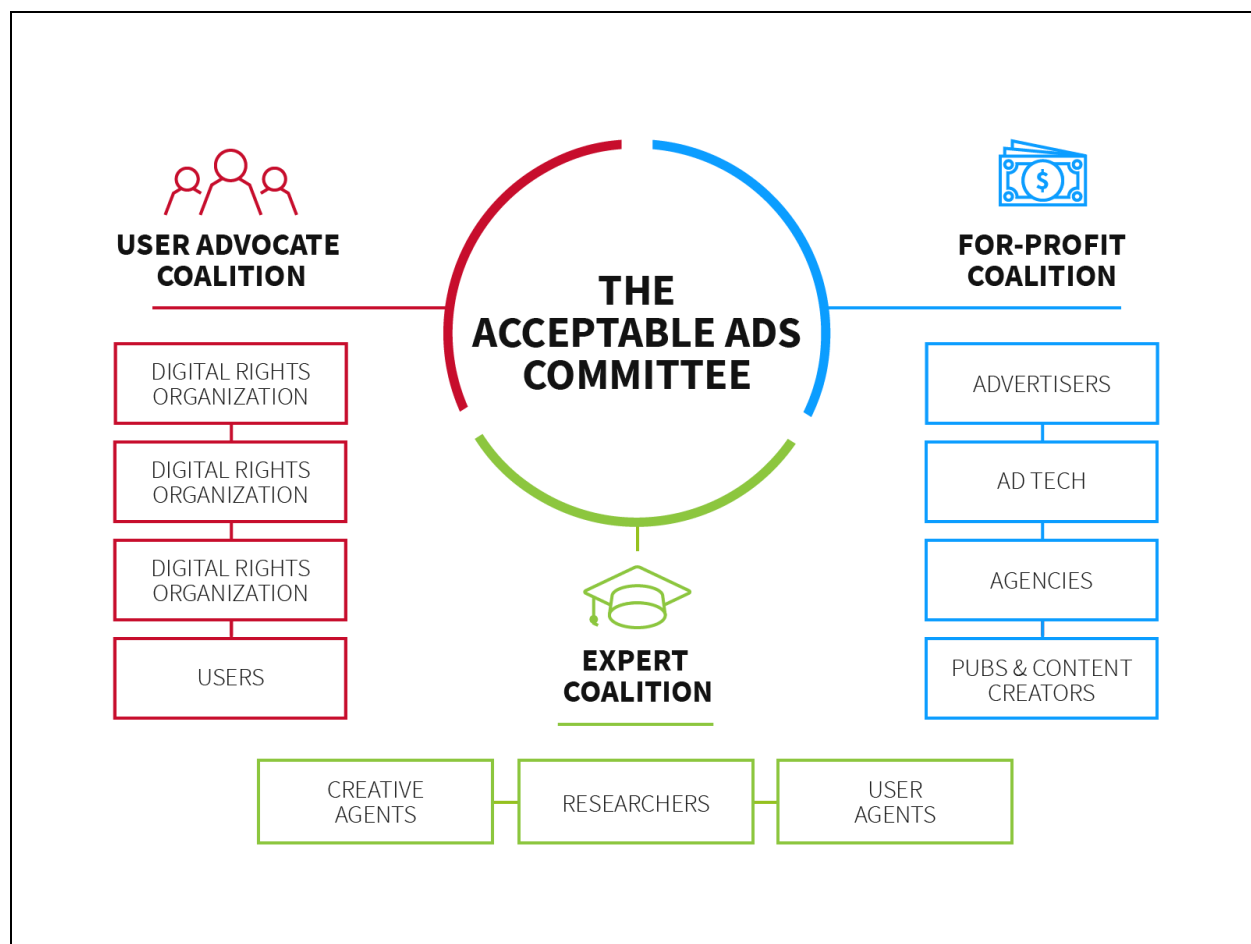
## APPENDIX G. HOW ADBLOCKING WORKS



Source: Adblock Plus

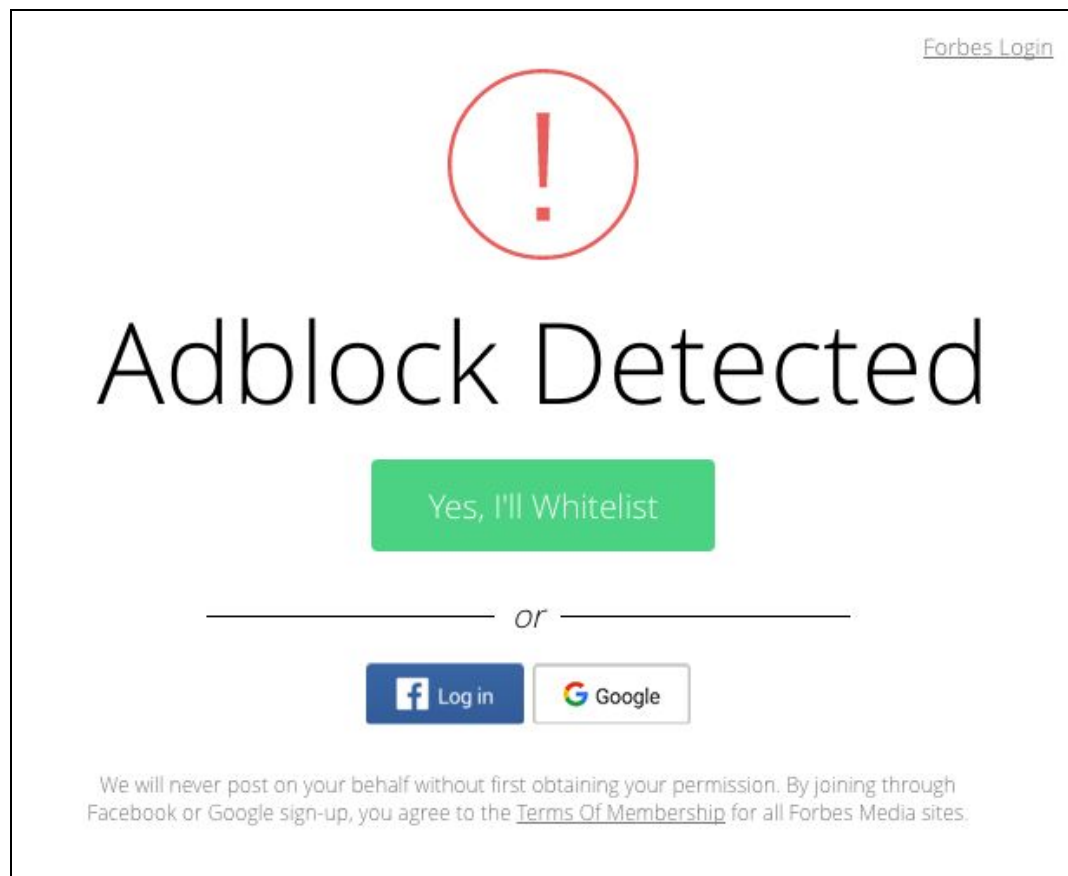


## APPENDIX H. ACCEPTABLE ADS COMMITTEE



Source: Adblock Plus

## APPENDIX I. ADBLOCK WALL EXAMPLES



Source: Forbes.com

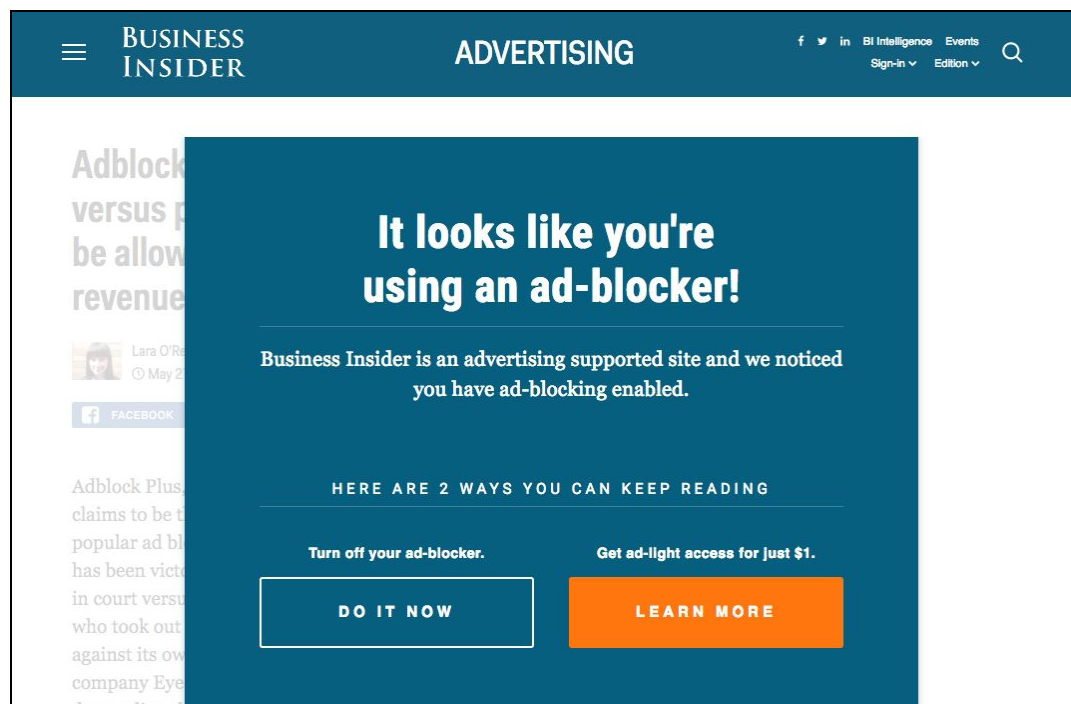
# Here's The Thing With Ad Blockers

**We get it:** Ads aren't what you're here for. But ads help us keep the lights on. So, add us to your ad blocker's [whitelist](#) or pay \$1 per week for an ad-free version of WIRED. Either way, you are supporting our journalism. We'd really appreciate it.

Sign Up

Already a member? [Log in](#)

Source: Wired.com



The image shows a Business Insider website with a dark blue header. The header contains the Business Insider logo, the word "ADVERTISING", and social media links for Facebook, Twitter, LinkedIn, and YouTube. There are also links for "BI Intelligence", "Events", "Sign-in", and "Edition". A search icon is visible on the right. The main content area is partially obscured by a large, semi-transparent blue overlay. The overlay has a white border and contains the following text:

**It looks like you're using an ad-blocker!**

Business Insider is an advertising supported site and we noticed you have ad-blocking enabled.

HERE ARE 2 WAYS YOU CAN KEEP READING

Turn off your ad-blocker. **DO IT NOW**

Get ad-light access for just \$1. **LEARN MORE**

On the left side of the overlay, there is a snippet of an article titled "Adblock Plus versus..." with a sub-headline "be allow... revenue". Below the title is a small profile picture of Lara O'Reilly and the text "May 2". Below that is a Facebook share button.

Source: Business Insider

## APPENDIX J. PUBLISHER INTERVIEW GUIDE

1. How much of your revenue is generated from advertising?
  - a. What other areas of revenue do you have? Are they growing or decreasing?
2. What kind(s) of relationship(s) do you have with your ad partners?
  - a. How much transparency do you have into what kinds of ads run on your site?  
Both in terms of content, placement, and functionality.
3. Have you noticed any overall changes or trends in the amount you earn from advertising in the last few years? (In proportion to your traffic.)
4. Do you consider adblocking to be a problem? Why (not)?
5. Why do you think users block ads?
6. What are you doing or do you plan to do to address the issue of ad blocking?
  - a. Do you currently check for ad blocker usage and/or do anything to prevent it on your site?
  - b. What have you been advised/instructed to do or not do?
  - c. Have your ad partners been a part of this conversation?
  - d. Has your legal counsel been a part of this conversation?
7. What is your experience with whitelisting? Is this something you would consider paying for?
8. What do you see as your most valuable offering(s) to your users?
  - a. What do you think your users think is most valuable?
  - b. What are all the factors that go into creating this value?
9. What kinds of value do your users offer you?
  - a. What do you think your users think they offer you?
10. Do you think this value-transaction is fair? Or does one side offer more than the other?