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Research Article

Under the lens of ads: Digital surveillance and pre-roll advertising avoidance dynamics[1]

Reklamların merceği altında: Dijital gözetim ve pre-roll reklam kaçınma dinamikleri

[1] This article is derived from an unpublished doctoral thesis written by Munise Hayrun Sağlam under the supervision of İbrahim Kırçova.

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Abstract

Programmatic advertising operates within a surveillance framework that monitors consumer behaviour and generates personalised content to deliver more targeted advertisements to audiences. While this framework analyses large-scale data from users and has the potential to enhance the relevance of advertisements, it can also negatively impact the user experience. This study examines the factors influencing avoidance behaviours towards pre-roll video advertisements by analysing the relationships between perceived marketing surveillance, ad clutter, skippable ad irritation, and perceived autonomy. For this purpose, data collected from 547 participants were analysed using structural equation modelling (SEM). The study's findings show that increasing the relevance of advertisements mitigates surveillance-induced negative attitudes and reduces viewers' tendency to avoid skippable ads. The results underscore the importance of granting viewers greater autonomy to improve the user experience and minimise ad avoidance. Furthermore, the study highlights the necessity of developing more balanced and ethical advertising strategies that enhance consumers' sense of control and alleviate the intrusive effects of programmatic advertising's surveillance nature.

Keywords: Programmatic Advertising, Marketing Surveillance, Ad Avoidance, Perceived Autonomy, Pre-roll Video Ads, Skippable Ads, Perceived Relevance

Jel Codes: M31, M37, M10, M30

Öz

Programatik reklamcılık, izleyicilere daha hedefli reklamlar sunmak amacıyla tüketici davranışlarını izleyen ve kişiselleştirilmiş içerik üreten bir gözetim çerçevesiyle çalışır. Bu çerçeve, kullanıcılardan gelen büyük ölçekli verileri analiz ederek reklamların alaka düzeyini artırma potansiyeline sahip olsa da kullanıcı deneyimi üzerinde olumsuz etkiler yaratabilir. Çalışma, izleyicilerin pre-roll video reklamlarına yönelik kaçınma davranışını etkileyen unsurları inceleyerek algılanan pazarlama gözetimi, reklam yoğunluğu, atlanabilir reklam rahatsızlığı ve algılanan özerklik arasındaki ilişkileri analiz etmektedir. Bu amaçla, 547 katılımcıdan elde edilen veriler yapısal eşitlik modellemesi (SEM) ile analiz edilmiştir. Çalışmanın bulguları, reklamların alaka düzeyinin artmasıyla gözetim kaynaklı olumsuz tutumların hafiflediğini ve izleyicilerin atlanabilir reklamlardan kaçınma eğiliminin azaldığını göstermektedir. Sonuçlar, kullanıcı deneyimini iyileştirmek ve reklamlardan kaçınmayı en aza indirmek için izleyicilere daha fazla özerklik tanınmasının hayati önem taşıdığını ortaya koymaktadır. Ayrıca, çalışma, tüketicilerin kontrol hissini güçlendiren ve reklamların izleyici üzerindeki rahatsız edici etkilerini hafifleten, daha dengeli ve etik reklam stratejilerinin geliştirilmesi gerektiğini vurgulamaktadır.

Anahtar Kelimeler: Programatik Reklamcılık, Pazarlama Gözetimi, Reklam Kaçınma, Algılanan Otonomi, Pre-roll Video Reklamlar, Atlanabilir Reklamlar, Algılanan Alaka Düzeyi

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Introduction

In the digital media era, programmatic advertising has fundamentally transformed how brands interact with their target audiences by leveraging big data and artificial intelligence technologies. Unlike traditional advertising methods, programmatic advertising utilises real-time auction mechanisms to deliver advertisements tailored to consumers' needs at the right time and place (Samuel, White, Thomas, & Jones, 2021). This level of personalisation enhances the relevance of advertisements for consumers, fostering positive attitudes (Tam & Ho, 2005). Furthermore, online video advertising enables consumers to engage more with advertisements and grants them control over their ad experience (Lin, Lee, & Lu, 2021), reinforcing their sense of autonomy. However, as advertisements become increasingly targeted and data-driven, they blur the line between convenience and intrusion, heightening concerns about marketing surveillance, which refers to collecting and using consumer data for advertising purposes. Excessive personalisation and behavioural tracking have triggered consumers' discomfort, distrust, and scepticism (White, Zahay, Thorbjørnsen & Shavitt, 2008; Ruckenstein & Granroth, 2020).

These dynamics are most prominently reflected in the pre-roll video ad format, widely used in digital media. Advancements in digital and mobile technologies have elevated online videos to one of the most preferred forms of media consumption in the modern era. Today, viewers spend an average of 17 hours per week watching online videos (Oberlo, 2024). This presents a significant opportunity for reaching consumers through online video advertising; however, it has also heightened viewer reactions to controversial formats such as pre-roll ads. Specifically, skippable pre-roll ads, while offering users the ability to skip, continue to be frustrating due to their intrusive nature and mandatory exposure periods (Campbell, Thompson, Grimm, & Robson, 2017; Duff & Faber, 2011; Morimoto & Chang, 2006; Jeon et al., 2019). Viewers frequently express dissatisfaction with the length of these ads, the irrelevance of their content, and their poor production quality (Li & Yin, 2021). This dissatisfaction increases ad avoidance behaviours, undermining brands' efforts to engage with their target audiences (Seyedghorban, Matanda, & LaPlaca, 2016).

While the existing literature extensively explores online ad avoidance behaviours, the unique factors influencing pre-roll ad avoidance—particularly those arising from perceived marketing surveillance—remain insufficiently understood (Cho & Cheon, 2004; Belanche, Flavián, & Pérez-Rueda, 2017). This study investigates how factors such as marketing surveillance, ad relevance, ad clutter, perceived autonomy, and the irritation caused by skippable ads shape consumer avoidance behaviours.

This study's theoretical foundation is based on the principles of Psychological Reactance Theory (Brehm & Brehm, 2013), which posits that individuals experience discomfort, anger, and resistance when they perceive their freedoms as being restricted. In advertising, pre-roll ads with mandatory viewing periods can threaten consumers' perceived autonomy, evoking strong reactance responses that lead to ad avoidance behaviours. Intrusive ads generate a sense of control deprivation among viewers, prompting behavioural responses such as skipping, ignoring, or entirely disengaging from the platform (Youn & Kim, 2019; Pavey & Sparks, 2010). However, offering consumers options to skip or customise ads can reduce perceived intrusiveness, restore a sense of freedom, and create a more favourable ad experience. Nonetheless, when such freedoms are limited or only partially granted, they can amplify feelings of reactance, further intensifying avoidance behaviours. In this context, this study argues that the relevance of skippable ads moderates surveillance-related variables, potentially mitigating the negative impacts of marketing surveillance and reducing ad avoidance behaviours. The findings will contribute to theoretical advancements and offer practical insights for designing consumer-centric advertising strategies.

The article is structured as follows: The first section delves into the theoretical framework, examining the effects of marketing surveillance, ad relevance, ad clutter, perceived autonomy, and the irritation caused by skippable ads on consumer behaviours. It also highlights existing gaps in the literature, presents the hypotheses, and explains the research model. The second section outlines the research methodology, detailing the data collection process, sampling, measurement tools, and analysis techniques. The third section presents the results of hypothesis testing and discusses the key factors influencing pre-roll ad avoidance behaviours. Finally, the concluding section provides theoretical and practical implications, discusses limitations, and offers recommendations for future research.

Theoretical background

Perceived marketing surveillance and pre-roll ad avoidance

Programmatic advertising is a method that automates the buying and selling of digital ads (Chen, Xie, Dong & Wang, 2019). Unlike traditional advertising processes, programmatic advertising leverages big data and artificial intelligence technologies to ensure the target audience encounters the right content at the right time and place (Samuel et al., 2021, p. 2). This process is based on a real-time bidding mechanism for purchasing advertising spaces, similar to an auction.

In the context of programmatic advertising, including personally identifiable information in an ad can give consumers the impression that the advertisement is tailored specifically to their interests and needs (Lustria, Cortese, Noar, & Glueckauf, 2009). Such personalisation can make the advertisement appear more relevant to the consumer, increasing engagement and fostering positive attitudes (Tam & Ho, 2005). However, research indicates that excessively targeted and privacy-invasive ads may have the opposite effect, causing discomfort and distrust among consumers (White et al., 2008). Ruckenstein and Granroth (2020) argue that targeted advertising creates a paradox between perceived privacy violations and consumers' desire to be "seen." This paradoxical nature of targeted advertising adds an intriguing complexity to the issue of ad avoidance.

Behavioural targeting, excessive personalisation, and privacy concerns—stemming from a sense of over-monitoring—are significant sources of marketing surveillance. These factors can lead to ad avoidance behaviours, particularly in the case of video advertisements, including blocking ads, mistrusting brands, and avoiding ads altogether. Ad avoidance encompasses a range of behaviours, such as ignoring advertisements, switching channels, skipping ads, or eliminating ad exposure (Speck & Elliott, 1997; Chen & Zhou, 2023). This potential negative impact of marketing surveillance on ad avoidance should be a cause for concern in marketing and advertising.

Studies on online ad avoidance have examined the impact of consumer behaviour in various advertising formats, but factors influencing pre-roll video ad avoidance remain insufficiently understood (Cho & Cheon, 2004; Goodrich et al., 2015; Kelly, Kerr& Drennan, 2010). Existing research typically focuses on skippable pre-roll ads, assuming they are less intrusive because they give viewers a sense of control (Belanche et al., 2017). However, this study emphasises that even skippable ads can be perceived as irritating, potentially increasing ad avoidance behaviours and leading to adverse outcomes. This highlights how awareness of surveillance can create a psychological barrier that diminishes the effectiveness of targeted advertising. For instance, Farman, Comello, & Edwards, (2020) found that when behavioural targeting is perceived as intrusive, it can reduce purchase intentions by approximately 4.5% due to the adverse effects associated with marketing surveillance. Similarly, Wei, Ko, & Pearce, (2021) demonstrated that perceived intrusiveness and privacy concerns in mobile social media ads significantly increased users' ad avoidance, mediated by feelings of irritation. Moreover, marketing surveillance has been shown to directly impact ad avoidance behaviour through advertising scepticism, with this effect becoming more pronounced in the case of personalised ads (Munir, Rana & Bhatti, 2017). Campbell et al. (2017) highlighted that the perceived intrusiveness of pre-roll ads—particularly those that emphasise attention-grabbing elements—significantly increases ad avoidance. Users tend to perceive such attention-grabbing ads as unnecessary and, consequently, avoid them more readily. In light of this information, the following hypothesis is proposed:

H_1: *Perceived marketing surveillance positively influences pre-roll ad avoidance.*

Perceived ad clutter

The relationship between perceived marketing surveillance and ad clutter can be understood through perceived intrusiveness. Ad clutter is perceived when consumers feel there are too many or poorly executed ads, leading to a sense of intrusiveness and discomfort (Rejón-Guardia & Martínez–López, 2013). Buvaneswari (2024) emphasises that perceived intrusiveness is positively related to cognitive, emotional, and behavioural avoidance. This suggests that as consumers perceive ads as more intrusive due to surveillance, their avoidance behaviours, which can significantly reduce ad effectiveness, increase (Niu, Wang, & Liu, 2021).

Frequent and consecutive ads make users feel bombarded with advertisements (Ha & McCann, 2008). This perception of intense advertising strategies, combined with the sense that users' digital behaviours are being tracked and analysed, contributes to a feeling of behavioural surveillance (Farman et al., 2020).

The dense presentation of ads can negatively impact consumers' processes of perceiving, processing, and evaluating ad content. This can lead to discomfort and disrupt their ability to focus on the primary

content they intend to consume. This, in turn, leads to reduced brand recall, less ad viewing, and overall lower advertising engagement (Loose et al., 2022; Lee & Cho, 2010). Moreover, when ads are irrelevant or meaningful to consumers, encountering too many ads within a short time frame can cause stress (Bauer & Greyser, 1968).

Additionally, when users perceive advertising surveillance as violating privacy, they are more likely to evaluate ads as intrusive and cluttered. This can lead to dissatisfaction with the ads and the platform displaying them (Ruckenstein & Granroth, 2019).

H_2: *Perceived marketing surveillance positively influences perceived ad clutter.*

Physical and emotional ways to avoid this discomfort include ignoring or distancing oneself from advertisements, which results in ad avoidance (Raditya et al., 2020; Chen & Zhou, 2023). For instance, Petrovici et al. (2017) demonstrated that ad clutter increases consumer irritation, directly triggering ad avoidance behaviours.

However, research by Senarathna shows that skippable ads can reduce discomfort compared to non-skippable ones, but the presence of ad clutter still contributes to overall consumer dissatisfaction (Senarathna, 2023). This suggests that even when consumers have the option to skip ads, a cluttered environment can diminish their overall experience and increase the likelihood of avoidance behaviours. Rejón-Guardia and Martínez-López (2013) emphasise that factors such as poor ad execution, numerous ads, and the use of pop-ups contribute to the perception of intrusiveness. When consumers encounter a high density of ads, they may perceive these ads as intrusive, leading to cognitive and emotional responses that drive them to avoid them altogether.

This aligns with findings by Cho and Lee (2004), who stated that perceived ad clutter predicts ad avoidance behaviours because consumers often feel that ads obstruct their goals or interfere with the content they wish to access.

H_3: *Perceived ad clutter positively influences pre-roll ad avoidance.*

Irritation of skippable ads

Online behavioural advertising, particularly skippable ads, is significant in triggering perceived surveillance among consumers (Zhang, Boerman, Hendriks, Araujo, & Voorveld, 2023). When consumers feel that their online behaviours are being tracked and utilised for targeted advertising, they may develop negative emotions toward these ads and perceive them as unwanted intrusions into their viewing experience. This sense of being manipulated or exploited by advertising strategies can evoke feelings of "irritation" (Ducoffe, 1996) and distraction (Chen, 1999), creating the perception of being under an emotionally "disturbing" form of surveillance (Ruckenstein & Granroth, 2020).

The "skip ad" option, while providing consumers with a sense of control and enhancing their autonomy, can also be a source of irritation. Skippable ads that require a mandatory five-second viewing period may test users' tolerance and increase feelings of irritation (Jeon et al., 2019). This mandatory viewing period interrupts users' content consumption experience, leading to perceptions of ad intrusiveness (Niu et al., 2021). Belanche et al. (2017) found that the repetitive appearance of skippable ads fosters a sense of "weariness" among users, significantly contributing to feelings of irritation. The repetition of the same ad content not only causes frustration but also leads users to perceive repeated exposure to the same ad format as a waste of time (Dehghani, Niaki, Ramezani & Sali, 2016), prompting them to skip subsequent ads more quickly (Belanche et al., 2017; Michaelidou & Moraes, 2016).

When viewers realise that a personalised ad directly targets their interests, they may interpret it as a deliberate strategy and a potential breach of their privacy. This perception of surveillance reinforces factors contributing to ad irritation, such as frequent ad appearances (Raditya et al., 2020) or interruptions to the viewing experience (Li, Zhang & Yao, 2020; Lin et al., 2021).

H_4: *Perceived marketing surveillance positively influences the irritation of skippable ads.*

Perceived ad intrusiveness triggers negative emotions such as irritation and discomfort, leading to cognitive and behavioural ad avoidance (Kelly et al., 2019; Belanche et al., 2017; Yin, Li & Zhou, 2023; Aslam, Farhat & Arif, 2021). However, the primary driver of ad avoidance is irritation (Sayedghorban et al., 2016); audiences view ads perceived as annoying or excessively manipulative as an unwanted source of irritation.

A study by Lin et al. (2021) on YouTube skippable ads revealed that irritation experienced before the skip option becomes active strongly triggers consumer avoidance behaviours. Similarly, Choi and Kim (2021) demonstrated that while a skip option can provide viewers with a sense of control, if the ads are

annoying, this sense of control does not mitigate negative emotions and instead increases the likelihood of ad avoidance.

Moreover, the dynamics of ad irritation are further complicated by the context in which ads are delivered. Senarathna's research highlights that while non-skippable ads heighten irritation, the presence of skippable ads in cluttered environments does not necessarily reduce this effect (Senarathna, 2023). The ability to skip ads can create a paradox: it empowers consumers to avoid annoying ads, yet the overall clutter still leads to increased irritation and avoidance behaviours.

These findings underscore the critical role of ad presentation context in shaping consumer responses, even when a skip option is available. This leads us to propose the following hypothesis:

H_5: *Irritation caused by skippable ads positively influences pre-roll ad avoidance behaviours.*

Perceived autonomy

Perceived autonomy refers to controlling actions or decisions and making choices freely without external coercion (Wertenbroch, Schrift, Alba, Barasch & Bhattacharjee, 2020) of ads can make their advertising experience less intrusive (Youn & Kim, 2019).

Psychological Reactance Theory (Brehm & Brehm, 2013) suggests that individuals may develop adverse reactions such as discomfort, anger, or resistance when they perceive a threat to their freedom. However, providing consumers with control features can mitigate this perceived threat and enhance their sense of autonomy (Averill, 1973; Sundar, 2008).

Perceived marketing surveillance raises consumers' awareness of their digital behaviours being monitored. However, this process can be perceived as less threatening when consumers receive personalised and meaningful advertising experiences. Choi and Kim (2021) demonstrated that allowing consumers to customise or control ads reduces perceived stress and threats, fostering a stronger sense of autonomy. Similarly, advertising strategies that provide opportunities for decision-making or behavioural control can transform the perception of threats into a supportive mechanism, positively shaping interactions with ads (Huang, 2019). Enhancing the contextual relevance of ad content can also lead consumers to perceive such ads as less intrusive. For instance, Kim, Ahn, Kwon, & Reid (2017) found that aligning ad content with its context reduces perceived intrusiveness and strengthens ad engagement. This indicates that perceived marketing surveillance can shift from being seen as a threat to freedom to being regarded as a factor that supports autonomy.

H_6: *Perceived marketing surveillance positively influences perceived autonomy.*

Consumers' resistance to advertising clutter can be seen as a strategy to maintain control over their cognitive space (Rumbo, 2002). While this suggests that consumers may avoid ads to assert their autonomy, it does not necessarily mean that perceived autonomy directly leads to ad avoidance. Instead, this behaviour reflects a defensive reaction to excessive ad exposure. This is because consumers are less likely to engage in ad avoidance when they feel their autonomy is respected (Cho & As-, 2004).

When perceived autonomy is high, individuals tend to perceive ads as less intrusive (Campbell et al., 2017). For example, a study on Facebook feed ads revealed that perceived control over ads reduces their intrusive nature, weakening ad avoidance behaviours (Youn & Kim, 2019). Similarly, Edwards, Li & Lee (2002) found that individuals' perceived control over advertisements reduces ad intrusiveness, leading to lower ad avoidance. This effect is particularly evident in formats like skippable pre-roll ads, which give users the freedom to choose. When the sense of freedom increases, individuals may view the ad not as an annoying interruption but as an opportunity to make a choice.

Altendorf, Smit, Azrout, Hoving, and van Weert (2020) found that individuals with a high need for autonomy are less likely to avoid ads because they are more open to engaging with content that aligns with their values and interests. As the sense of autonomy increases, the likelihood of users perceiving ads as manipulative or coercive decreases, thereby reducing psychological reactance and weakening ad avoidance behaviours (Pavey & Sparks, 2010).

H_7: *Perceived autonomy negatively influences pre-roll ad avoidance.*

Perceived relevance of skippable ads

Perceived ad relevance is a construct that can positively and negatively affect consumer responses (Kumar et al., 2024). Conversely, highly relevant ads allow consumers to find the content more relatable, increasing attention, engagement, and conversion rates (Li & Huang, 2016; Celsi & Olsen, 1988; Trampe, Stapel, Siero, & Mulder, 2010). Brinson and Britt (2021) demonstrated that perceived relevance

contributes to more positive attitudes toward ads and reduces ad avoidance behaviour. Similarly, De Groot (2022) found that highly relevant ads prevent individuals from perceiving them as intrusive interruptions, limiting ad avoidance and encouraging greater acceptance of the ad content. In such cases, the negative impact of perceived ad surveillance on autonomy perception diminishes, as users are more likely to view the ad as acceptable rather than as a form of "surveillance." This mitigates the perceived loss of autonomy and reduces pre-roll ad avoidance.

However, high relevance does not always yield positive outcomes. Overly personalised ads can evoke feelings of privacy invasion or surveillance, triggering perceptions of intrusiveness and increasing ad avoidance behaviour (De Keyzer, Dens, & De Pelsmacker, 2022). Additionally, Segijn and van Ooijen (2022) noted that privacy concerns arise when users question the data collection processes behind such highly relevant ads, leading to adverse reactions. This dual effect highlights that the impact of perceived relevance on consumers depends on the contextual and appropriateness of personalisation strategies.

In this study, we hypothesise that when the perceived relevance of ads is high, the ads will be perceived as more meaningful and relevant to the individual. This perception can reduce the negative surveillance connotations associated with personalised ads and weaken their influence on pre-roll ad avoidance behaviour. Presenting ads in the proper context and on the appropriate channel has been shown to reduce ad avoidance (Pham et al., 2021; Cho & Cheon, 2004). Conversely, when ads are perceived as intrusive, the positive effect of perceived ad clutter on ad avoidance behaviour can amplify, as previous studies have demonstrated (Petrovici et al., 2017; Seyedghorban, Matanda, & LaPlaca, 2016; Dodoo & Wen, 2020; Kelly et al., 2019).

Since personalised ads reduce perceptions of intrusiveness and increase acceptability when perceived as more relevant (De Groot, 2022; Kim & Sundar, 2010), we hypothesise that high PRSA reduces PAC perceptions and indirectly lowers PRAA.

H_8: *Perceived marketing surveillance indirectly influences pre-roll ad avoidance through perceived ad clutter.*

H_9: *The perceived relevance of skippable ads moderates the relationship between perceived marketing surveillance and perceived ad clutter, indirectly and negatively affecting pre-roll ad avoidance behaviour through perceived ad clutter.*

Perceived ad quality can alleviate irritation associated with skippable ads (Choi & Kim, 2021). This finding is critical for understanding how perceived irritation impacts ad avoidance behaviour. When ad quality is high, consumers may find ads less irritating, which can reduce their tendency to avoid advertisements.

Campbell et al. (2017) conducted an empirical study using a large dataset from multiple countries to examine "skipping" behaviour in pre-roll ads and its relationship with various ad characteristics. Their findings revealed that ads with lower engagement and less stimulating features lead to higher skipping rates. Conversely, attention-grabbing ad features were found to have the opposite effect, making users perceive these ads as unnecessary and annoying, thereby triggering ad avoidance behaviour.

Similarly, Jung (2017) highlighted that perceived surveillance in social media ads makes users perceive these ads as more irritating and less contextually relevant, increasing ad avoidance. Bellman et al. (2018) further noted that when pre-roll ads are perceived as part of a complex or controversial environment, users tend to find them more intrusive and develop irritation toward skippable ads.

This highlights the relationship between perceived ad surveillance and irritation toward skippable ads in shaping consumers' pre-roll ad avoidance behaviour. High perceived irritation may trigger ad avoidance behaviour, even when efforts are made to personalise ads. However, the high perceived relevance of skippable ads can mitigate irritation, making the ads more tolerable and reducing ad avoidance (Bleier & Eisenbeiss, 2015). These arguments lead us to the following hypotheses:

H_{10}: *Perceived marketing surveillance indirectly influences pre-roll ad avoidance behaviour through irritation toward skippable ads.*

H_{11}: *The perceived relevance of skippable ads moderates the relationship between perceived marketing surveillance and irritation toward skippable ads, indirectly and negatively affecting pre-roll ad avoidance behaviour through irritation.*

Individuals may find advertisements in the content they choose to watch more acceptable. This is because they perceive these ads as part of the content they selected, reducing the need to avoid them. Individuals with high perceived autonomy often feel they control their viewing experience. This sense of control can lead them to accept advertisements as a natural part of the experience, making them less likely to skip or avoid the ads.

Huang and Waddell (2019) demonstrated that personalising advertisement content and offering users a sense of choice enhances their perception of control, thereby improving their attitudes toward advertisements. Similarly, Youn & Kim (2019) revealed that perceived control over advertisements reduces the perception of advertisement intrusiveness, influencing advertisement avoidance behaviour.

This suggests that perceived autonomy can mitigate the adverse effects of perceived advertisement surveillance by making it feel more meaningful to users, thereby reducing advertisement avoidance. In this context, the high perceived relevance of advertisements is expected to weaken the effect of perceived advertisement surveillance on perceived autonomy, indirectly reducing pre-roll advertisement avoidance behaviour.

H*$_{12}$*: *Perceived marketing surveillance indirectly influences pre-roll advertisement avoidance behaviour through perceived autonomy.*

H*$_{13}$*: *The perceived relevance of skippable ads moderates the relationship between perceived marketing surveillance and autonomy, indirectly and negatively influencing pre-roll advertisement avoidance behaviour by reducing perceived autonomy.*

Research methodology

This study investigates the psychological and behavioural dynamics underlying pre-roll video ad avoidance, focusing on the roles of factors such as perceived advertising surveillance, perceived ad clutter, and irritation caused by skippable ads. The conceptual model developed based on the literature, as shown in Figure 1, illustrates the relationships between the key variables and the interactions between psychological perceptions and avoidance behaviours.

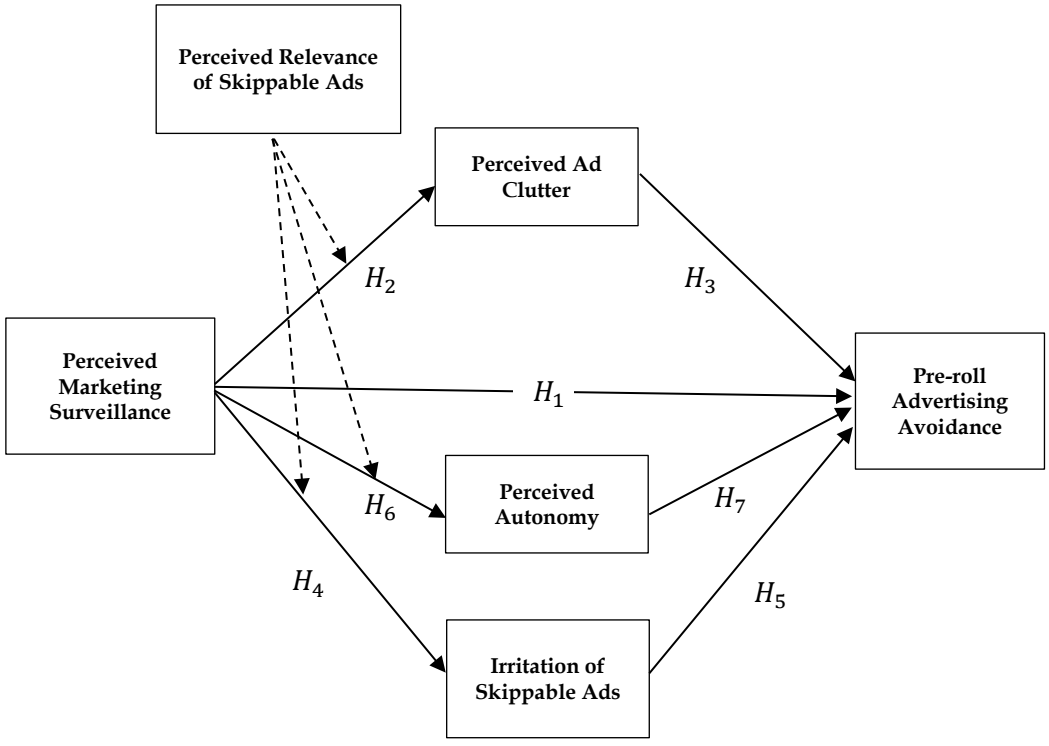

Figure 1: Research Model

Structural Equation Modeling (SEM) was employed to evaluate the hypothesised relationships. This method enables the simultaneous analysis of direct, indirect, and moderating effects within a complex theoretical framework. The statistical analyses were conducted using SmartPLS 4, a robust software for assessing measurement and structural models. The researchers applied a bootstrap resampling method with 5,000 iterations to ensure the reliability and validity of the findings. This number of iterations is widely recommended in SEM literature as it provides stable results and sufficient statistical power (Hair et al., 2017). This approach allowed for a comprehensive examination of model relationships and facilitated the evaluation of the statistical significance of the proposed effects.

Sample selection

The research sample consisted of individuals aged 18 and above selected from the consumer population. To ensure that participants were individuals with online video-watching habits, a screening question was included at the beginning of the survey: "Do you have a habit of watching videos on online platforms (e.g., YouTube, Netflix, Instagram)?" Only those who answered "Yes" to this question were included in the study. Therefore, the findings can only be generalised to individuals watching online videos.

The sample size was determined by carefully considering the measurement model's structural requirements and the literature recommendations. Considering the total number of 35 items in the study, the minimum sample size was calculated as 350 participants based on the guideline of at least 10 participants per variable (Tabachnick & Fidell, 2007). The criterion of 15–20 participants per variable for more complex modelling approaches was also considered (Kline, 2015). Accordingly, the 552 participants used in this study satisfy the minimum requirements and align with the ideal ratios suggested for robust and reliable results.

During the data collection process, 552 survey responses were obtained. However, to enhance data quality, responses from participants who gave uniform answers to all questions, answered "No" to the screening question, or provided inconsistent responses were excluded from the analysis. After this elimination process, 547 valid surveys were included in the analysis. The demographic characteristics and other descriptive information of the participants are detailed in Table 1.

Table 1: Sample Demographics

Demographic Profile		n*	%
Gender			
	Male	182	33.27
	Famele	365	66.73
Age			
	18–24	31	5.67
	25–34	272	49.73
	35-44	197	36.01
	45-54	26	4.75
	55-64	13	2.38
	65 and above	8	1.46
Education			
	Secondary School or Equivalent	53	9.69
	Associate's or Bachelor's Degree	289	52.83
	Master's or Doctoral Degree	205	37.48
Income (₺)			
	27.500 and below	22	4.02
	17.501-25.000	43	7.86
	25.001-45.000	76	13.89
	45.001-75.000	190	34.73
	75.001-100.000	151	27.61
	100.001 and above	65	11.868
Occupation			
	Public Sector	164	29.98
	Private Sector	256	46.80
	Technical/Trade Worker	23	4.20
	Academic	17	3.11
	Student (+18)	59	10.79
	Retired	12	2.19
	Unemployed (+18)	16	2.93

Note: * show the sample size.

Data collection

This study gathered data using an online survey shared through email and messaging platforms to engage a diverse participant group. The sampling method was primarily convenience sampling, targeting individuals who met the eligibility criteria, such as those 18 or older with online video-watching habits. Participants were encouraged to share the survey link within their networks, employing a snowball sampling approach to enhance their reach and gather responses from a wider audience. This combination of sampling methods was particularly suitable for the study's focus on online behaviours.

Participation in the study was entirely voluntary, and participants were informed about the purpose and scope of the study before completing the survey. Anonymity and confidentiality were rigorously maintained throughout the process. The study was conducted with the approval of the relevant ethics committee. The survey was administered using Google Forms, chosen for its user-friendly interface for participants and effective data management capabilities for researchers. The data collection process lasted approximately two months.

The survey was structured into three main sections aligned with the study's objectives. The first section included a screening question to ensure participants had online video-watching habits. The second section comprised Likert-type scales to measure participants' attitudes, perceptions, and behaviours toward pre-roll advertisements. These scales used a 7-point Likert format (1 = Strongly Disagree, 7 = Strongly Agree), known for providing more precise distinctions in responses (Finstad, 2010) and offering higher validity and reliability—the final section collected demographic information, such as age, gender, and other relevant characteristics.

The researchers conducted a preliminary pilot study with 74 participants to evaluate the clarity and reliability of the survey items. Findings from the pilot study indicated that the survey items were generally clear and understandable. The majority of participants found the questions contextually appropriate. Minor linguistic adjustments were made to enhance clarity and precision, particularly to two items. During the pilot study, all scales demonstrated acceptable internal consistency values (Cronbach's Alpha ranging from 0.75 to 0.88). This process was a critical step in ensuring the contextual relevance and reliability of the scales. Additionally, no survey items were deemed necessary to remove following the pilot study. In the main study, data were collected from 552 participants.

The survey employed several well-established scales to measure the constructs of interest, each adapted from validated and reliable sources in the literature. Pre-roll Advertising Avoidance was measured using a 10-item scale developed by Chen and Zhou (2023), assessing participants' behavioural, cognitive, and affective responses to pre-roll advertisements. Perceived Ad Clutter was assessed with a 5-item scale based on the works of Cho and Cheon (2004) and Speck and Elliott (1997b), capturing participants' perceptions of the excessive and intrusive nature of advertisements in online environments. Irritation with Skippable Ads was measured using a 3-item scale adapted from Ducoffe (1996), Jain et al. (2018), and Aslam et al. (2021), evaluating the annoyance and emotional distress caused by skippable ads. Perceived autonomy was measured using a 5-item scale adapted from Dammers et al. (2022), gauging participants' feelings of control and autonomy in their interactions with video advertisements. Perceived Relevance of Video Ads was measured using an 8-item scale adapted from Laczniak and Muehling (1993), Ciuchita et al. (2021), and Aiolfi et al. (2021), capturing the relevance and meaningfulness of the advertisements to participants' interests and preferences. Lastly, Perceived Advertising Surveillance was measured with a 4-item scale developed by Segijn, Opree, & van Ooijen (2022), evaluating the extent to which participants perceive advertisements as a form of surveillance or monitoring. The survey instrument included items adapted from these well-established scales, ensuring validity and reliability in the research context. Original items for all constructs are provided in the appendix.

Measurement model and structural evaluation

The measurement model was assessed in terms of reliability, validity, and multicollinearity, while the structural model was evaluated for its explanatory power, predictive relevance, and overall model fit. The results demonstrate that all constructs meet the required psychometric standards, confirming the robustness of the proposed model.

Table 2: Measurement Model Results

Variables	Loading	VIF	Mean	SD
Pre-roll Advertising Avoidance (PRAA) α = 0.855; CR = 0.887; AVE = 0.597				
PRAA1	0.876	1.944	2.327	1.028
PRAA2	0.895	2.027	2.379	1.019
PRAA3	0.854	1.661	2.394	1.051
PRAA4	0.874	1.628	1.898	1.175
PRAA5	0.905	1.724	2.042	1.039
PRAA6	0.907	1.555	1.998	1.048
PRAA7	0.744	1.183	2.972	1.013
PRAA8	0.909	1.502	2.659	1.027
PRAA9	0.883	1.749	1.392	0.949
PRAA10	0.910	2.118	2.316	0.981
Perceived Marketing Surveillance (PMS): α = 0.893; CR = 0.925; AVE = 0.795				
PMS 1	0.846	2.077	1.498	1.022
PMS 2	0.873	2.677	1.621	0.959
PMS 3	0.878	2.838	1.619	1.079
PMS 4	0.880	2.355	1.571	1.020
Perceived Autonomy (PAU): α = 0.845; CR = 0.906; AVE = 0.762				
PAU1	0.875	2.687	1.964	1.747
PAU2	0.829	1.437	1.842	1.102
PAU3	0.776	2.914	2.727	1.268
PAU4	0.830	1.545	2.728	1.521
PAU5	0.768	1.648	2.853	1.452
Perceived Ad Clutter (PAC): α = 0.877; CR = 0.901; AVE = 0.747				
PAC1	0.829	1.771	2.093	0.949
PAC2	0.804	1.388	2.347	0.939
PAC3	0.848	1.800	2.215	0.873
PAC4	0.871	1.794	2.444	1.068
PAC5	0.790	1.819	2.614	1.008
Irritation Skippable Ads (ISA): α = 0.871; CR = 0.882; AVE = 0.734				
ISA1	0.811	1.636	2.390	1.063
ISA2	0.858	1.723	2.244	0.965
ISA3	0.830	1.535	2.621	1.085
Perceived Relevance of Skippable Ads (PRSA) α = 0.915; CR = 0.928; AVE = 0.659				
PRSA1	0.818	1.944	3.347	1.702
PRSA2	0.884	2.485	2.458	1.491
PRSA3	0.854	2.539	2.136	1.787
PRSA4	0.853	2.308	3.365	1.665
PRSA5	0.872	3.175	3.676	1.760
PRSA6	0.857	3.812	3.706	1.808
PRSA7	0.763	2.188	3.845	1.831
PRSA8	0.798	2.926	3.867	1.875

Table 2 presents the measurement properties of the constructs, including PRAA, PMS, PAU, PAC, ISA, and PRSA. All constructs demonstrated strong internal consistency, as evidenced by Cronbach's alpha (α) values exceeding the threshold of 0.70, confirming their reliability (Malhotra, 2019). Composite Reliability (CR) values for all constructs also surpassed 0.80, indicating robust reliability (Hair et al., 2017).

Convergent validity was supported by Average Variance Extracted (AVE) values, all exceeding the recommended threshold of 0.50 (Fornell & Larcker, 1981). For example, the AVE for PRAA was 0.597, while PMS had an AVE of 0.795, suggesting that their indicators explained a substantial portion of the variance in these constructs. Similarly, the AVE values for PAC, PAU, ISA, and PRSA were 0.747, 0.762, 0.734, and 0.659, respectively, reinforcing the validity of the measurement model. Indicator loadings

were generally above the acceptable threshold of 0.70 and fell within appropriate ranges (Bagozzi & Yi, 1988). While some items, such as PRAA7, showed slightly lower loadings (0.744), these remained acceptable for exploratory research. Conversely, PRAA10 (0.910) and PRSA8 (0.910) exhibited powerful measurement properties, further validating the constructs. Variance Inflation Factor (VIF) values ranged between 1.183 and 3.812, well below the critical threshold of 5 (Hair et al., 2016). This confirms the absence of multicollinearity issues and ensures that the constructs were measured distinctly and independently, reassuring the model's robustness.

The findings confirm that the measurement model meets high standards of reliability and validity. These results provide a robust foundation for testing the theoretical hypotheses and analysing the structural relationships within the model while ensuring confidence in the quality and accuracy of the measurement approach.

Table 3: Fornell-Larcker Criterion

	ISA	PAC	PMS	PAU	PRAA	PRSA
ISA	**0.857**					
PAC	0.739	**0.864**				
PMS	0.480	0.464	**0.891**			
PAU	-0.153	-0.135	0.223	**0.872**		
PRAA	0.645	0.679	0.553	-0.347	**0.773**	
PRSA	0.107	-0.246	0.088	0.375	-0.099	**0.812**

Abbreviations: PRAA: Pre-roll Advertising Avoidance, PMS: Marketing Surveillance, PAU: Perceived Autonomy, PAC: Perceived Ad Clutter, ISA: Irritation from Skippable Ads, and PRSA: Perceived Relevance of Skippable Ads.

Table 3 presents the discriminant validity of the constructs based on the Fornell-Larcker criterion, which compares the square root of the AVE for each construct (diagonal values) with the correlations between constructs (off-diagonal values) (Fornell & Larcker, 1981). According to this criterion, the square root of AVE for a construct should be greater than its correlations with any other construct, ensuring that each construct represents a unique conceptual domain.

The table confirms that the Fornell-Larcker criterion is satisfied for all constructs. For example, the square root of AVE for PRAA is 0.773, which is higher than its highest correlation with PAC (r=0.679). Similarly, PAU has a square root of AVE of 0.872, exceeding its highest correlation with PRAA (r=−0.347). These findings indicate that the constructs are empirically distinct and support the discriminant validity of the measurement model. The correlations between constructs were also found to be within acceptable ranges. The highest correlation is observed between PAC and ISA (r=0.739), which, although relatively high, remains below the critical threshold of 0.85 (Henseler et al., 2015). This suggests these constructs are related but distinct, affirming the model's validity.

Overall, the results demonstrate robust discriminant validity, indicating that the constructs measure unique aspects of the theoretical framework and do not overlap excessively. This provides a strong foundation for the reliability and validity of the structural model.

Table 4: Heterotrait-Monotrait Criterion

	ISA	PAC	PMS	PAU	PRAA	PRSA	PRSA x PMS
ISA							
PAC	0.729						
PMS	0.440	0.399					
PAU	0.144	0.143	0.276				
PRAA	0.717	0.792	0.605	0.111			
PRSA	0.137	0.086	0.205	0.430	0.221		
PRSA x PMS	0.425	0.486	0.511	0.204	0.445	0.079	

Abbreviations: PRAA: Pre-roll Advertising Avoidance, PMS: Marketing Surveillance, PAU: Perceived Autonomy, PAC: Perceived Ad Clutter, ISA: Irritation from Skippable Ads, and PRSA: Perceived Perceived Relevance of Skippable Ads.

Table 4 presents the discriminant validity of the constructs based on the Heterotrait-Monotrait Ratio (HTMT) of correlations, as Henseler et al. (2015) recommended. The HTMT criterion evaluates whether constructs are empirically distinct by comparing their inter-construct correlations. According to the

established threshold of 0.85, values below this level indicate satisfactory discriminant validity (Henseler et al., 2015).

An examination of the HTMT matrix confirms that all observed values fall below the threshold, demonstrating robust discriminant validity across the constructs in the model. The HTMT values range from 0.086 to 0.792, with the highest correlation observed between PAC and PRAA, which is 0.792. Although this value suggests a relatively strong relationship, it remains below the critical threshold of 0.85, affirming the distinctiveness of these constructs. Other key relationships, such as those between PMS and PRSA (0.205) or PRSA and its interaction term PRSA x PMS (0.079), indicate low to moderate correlations, further supporting the discriminant validity of the measurement model.

These findings provide strong evidence that the constructs capture unique aspects of the theoretical framework and do not overlap excessively. This confirms the integrity of the measurement model and validates its application for subsequent structural model analysis.

Table 5: Model Evaluation: R^2, Q^2, and Fit Indices

Latent variables	R^2	Q^2
PRAA	0.605	0.587
PAU	0.259	0.342
ISA	0.226	0.279
PAC	0.402	0.591
Model fit	**SRMR**	**NFI**
	0.071	0.902

Abbreviations: PRAA: Pre-roll Advertising Avoidance, PAU: Perceived Autonomy, PAC: Perceived Ad Clutter, ISA: Irritation from Skippable Ads.

The developed model was examined to evaluate the relationships among latent variables and their explanatory power for dependent constructs. The results in Table 5 were assessed based on the model's explanatory power (R^2), predictive relevance (Q^2), and overall fit (SRMR and NFI). First, R^2 values indicate the extent to which independent variables explain dependent variables. According to the guidelines proposed by Cohen (1988), R^2 values of 0.19, 0.33, and 0.67 represent low, medium, and high explanatory power, respectively. The model explains 60.5% of the variance in PRAA, demonstrating moderate-to-high explanatory power. Additionally, it accounts for 40.2% of the variance in PAC, 25.9% in PAU, and 22.6% in ISA. These results indicate that the model provides a robust framework for explaining the key-dependent constructs.

The model's predictive relevance was evaluated using the Q^2 metric, as presented in Table 5, with all values greater than zero, confirming the model's predictive accuracy. Specifically, the Q^2 value for PRAA (0.587) indicates strong predictive relevance, while PAC (0.591) also demonstrates high predictive accuracy. PAU (0.342) and ISA (0.279) exhibit moderate levels of predictive relevance. These findings validate the model's capability to predict outcomes related to advertising avoidance behaviours accurately. Overall, the results highlight the significance of PMS and PRSA and their interaction effects in shaping participants' responses to video advertisements. Additional details regarding measurement and evaluation are provided in the appendices.

The SRMR and NFI values, as shown in Table 5, indicate satisfactory results in terms of model fit. An SRMR of 0.077 suggests an acceptable level of model fit, while the NFI value of 0.902 demonstrates a solid fit for the data. An SRMR value below 0.08 (Henseler, 2015) and an NFI value of 0.90 or above (Bentler & Bonett, 1980) indicate adequate model fit.

Table 6: Effect Size Assessment of Independent Variables (f^2)

	ISA	PAC	PAU	PMS	PRAA	PRSA	PRSA x PMS
ISA					0.157		
PAC					0.213		
PAU					0.107		
PMS	0.193	0.182	0.122		0.283		
PRAA							
PRSA	0.101	0.119	0.254				
PRSA x PMS	0.164	0.214	0.206				

Abbreviations: PRAA: Pre-roll Advertising Avoidance, PMS: Perceived Marketing Surveillance, PAU: Perceived Autonomy, PAC: Perceived Ad Clutter, ISA: Irritation from Skippable Ads, and PRSA: Perceived Relevance of Skippable Ads.

The R^2 and Q^2 values demonstrate the model's explanatory power and predictive relevance for the dependent variables. However, to better understand the individual contributions of independent variables, the f^2 values were evaluated, as shown in Table 6. This analysis provides deeper insights into which variables contribute most significantly to the model's overall success. According to the thresholds suggested by Hair et al. (2022), f^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects, respectively.

The results reveal that the impact of PMS on PRAA (f^2=0.283) represents one of the most substantial explanatory effects within the model, indicating that PMS largely explains PRAA. Similarly, the effect of PMS on PAC (f^2=0.213) demonstrates a medium-level explanatory power. Furthermore, the moderation effect of the PRSA x PMS interaction term on PAC (f^2 =0.214) and PAU (f^2 =0.206) highlights the significant role of moderation effects in the model. Additionally, the effect of PRSA on PAU (f^2 =0.254) exhibits above-average explanatory power. The effects of ISA and other variables on PAU appear more limited. For example, the f^2 value of ISA on PMS (f^2 =0.157) and PAU's impact on PMS (f^2 =0.107) are relatively lower. These findings indicate that the model has some limitations, particularly in explaining PAU, and suggest exploring additional factors to improve its explanatory power.

These metrics collectively support the validity of the model's overall structure from theoretical and measurement perspectives.

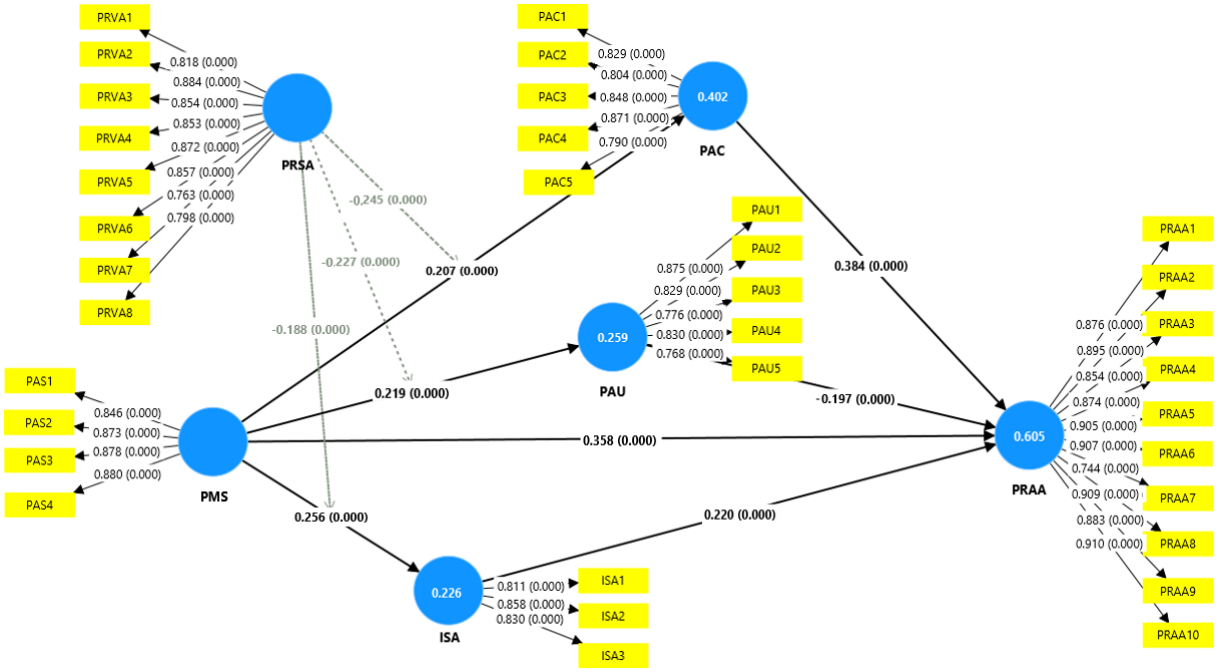

Figure 2: Hypothesised Relationships

The conceptual framework guiding this study is visually represented in **Figure 2**, illustrating the structural model, including path coefficients and explained variances (R^2) for each dependent construct. The framework integrates key constructs, including PRAA, PMS, PAC, PAU, ISA, and PRSA. These pathways were empirically tested using PLS-SEM.

Results

The hypotheses were tested using the PLS-SEM approach, and bootstrapping was employed to obtain t-values and p-values for each path in the model. This technique accounts for variability by repeatedly resampling the dataset and enhancing the statistical results' precision (Hair et al., 2019). A summary of the hypothesis testing results is presented in Table 7.

Table 7: Overview of Hypothesis Testing Outcomes

Hypothesis and Path	β	Std.dev	t-Value	p-Value	Results
H1. PMS -> PRAA	0.358	0.035	10.533	0.000***	Supported
H2. PMS -> PAC	0.207	0.051	4.144	0.000***	Supported
H3. PAC -> PRAA	0.384	0.046	8.609	0.000***	Supported
H4. PMS -> ISA	0.256	0.050	5.090	0.000***	Supported
H5. ISA -> PRAA	0.220	0.044	5.031	0.000***	Supported
H6. PMS -> PAU	0.219	0.044	4.280	0.000***	Supported
H7. PAU -> PRAA	-0.197	0.031	3.492	0.000***	Supported
H8. PMS -> PAC -> PRAA	0.179	0.024	4.475	0.000***	Supported
H9. PRSA x PMS -> PAC -> PRAA	-0.194	0.024	5.034	0.000***	Supported
H10. PMS -> ISA -> PRAA	0.156	0.016	4.181	0.000***	Supported
H11. PRSA x PMS -> ISA -> PRAA	-0.141	0.021	4.015	0.000***	Supported
H12. PMS -> PAU -> PRAA	-0.111	0.015	3.012	0.008**	Supported
H13. PRSA x PMS -> PAU -> PRAA	-0.104	0.013	3.356	0.014*	Supported

Abbreviations: PRAA: Pre-roll Advertising Avoidance, PMS: Perceived Marketing Surveillance, PAU: Perceived Autonomy, PAC: Perceived Ad Clutter, ISA: Irritation from Skippable Ads, and PRSA: Perceived Relevance of Skippable Ads.

Note: sig. level: ***p < 0.001, **p < 0.01, *p < 0.05. Standardised path coefficients (β), standard errors (Std. dev), t-values, and significance levels are reported for all hypothesised relationships. All results were obtained using a two-tailed test.

The research findings strongly support the theoretical foundations of the proposed relationships in the model. Hypothesis testing revealed that all paths were statistically significant, with p-values below the conventional threshold of 0.05. Specifically, the direct relationship between PMS and PRAA was positive and significant (β = 0.358, t = 10.533, p < 0.001), confirming H1. Similarly, the effects of PMS on PAC (β = 0.207, t = 4.144, p < 0.001), ISA (β = 0.256, t = 5.090, p < 0.001), and PAU (β = 0.219, t = 4.280, p < 0.001) were also found to be positive and significant. These findings support H2, H4, and H6, respectively. The results highlight that PMS directly impacts PRAA and influences critical variables such as PAC, ISA, and PAU. Examining the effects of other variables on PRAA, PAC was found to have a strong and positive influence (β = 0.384, t = 8.609, p < 0.001), while ISA exhibited a moderate positive effect (β = 0.220, t = 5.031, p < 0.001). In contrast, PAU negatively and significantly affected PRAA (β = −0.197, t = 3.492, p < 0.001). The negative effect of PAU aligns with theoretical expectations, emphasising its role in shaping advertising avoidance behaviour. These findings confirm H3, H5, and H7, respectively. Regarding mediation effects, PMS exhibited significant indirect effects on PRAA through PAC (β = 0.179, t = 4.475, p < 0.001), ISA (β = 0.156, t = 4.181, p < 0.001), and PAU (β = −0.111, t = 3.012, p < 0.01). These results demonstrate that PMS influences PRAA both directly and indirectly, with the indirect effects being mediated by PAC, ISA, and PAU. Thus, the effects of PMS on PRAA represent partial mediation relationships. These findings support H8, H10, and H12.

Finally, the moderating effects shaping the relationship between PMS and PRAA were evaluated, revealing the intricate nature of the relationships. The interaction term of PRSA with PMS was found to significantly affect the indirect pathways through PAC (β = −0.194, t = 5.034, p < 0.001), ISA (β = −0.141, t = 4.015, p < 0.001), and PAU (β = −0.104, t = 3.356, p < 0.05). These findings support H9, H11, and H13,

illustrating how PRSA is crucial in moderating the relationships between PMS and the mediating variables, ultimately influencing PRAA.

Discussion

This study offers insights into the psychological and behavioural factors influencing pre-roll ad avoidance behaviours, including perceived marketing surveillance, perceived ad clutter, irritation of skippable ads, and perceived autonomy. The findings indicate that perceived marketing surveillance primarily increases ad avoidance from complex psychological reactions such as perceived loss of autonomy, privacy invasion, irritation, and reactance. Targeting ads based on consumer behaviour creates an intrusive experience, leading consumers to perceive ads as annoying and invasive. This observation aligns with previous research emphasising the counterproductive effects of excessive behavioural targeting (White et al., 2008). However, several critical aspects warrant further discussion within this context.

One of the most intriguing findings of the study is the role of perceived autonomy in reducing ad avoidance behaviour. Pre-roll ads are presented in a unique format, embedded within a context where viewers have voluntarily directed their attention to the video they wish to watch. However, the involuntary inclusion of ads within this voluntarily focused attention can be highly disruptive for viewers, even if the ads are skippable. In particular, when unskippable and lengthy ads are involved, negative feelings toward the advertisement are likely to intensify (Jeon, 2019; Tsai, 2011). This scenario leads to ad avoidance behaviour driven by a perceived loss of control. Nevertheless, it has been observed that when consumers feel a sense of control over advertisements, they perceive them as less intrusive and more acceptable. The findings suggest that when users perceive surveillance as a system supporting their preferences, the perception of surveillance shifts from being a threat to an autonomy-enhancing factor. This finding aligns with the Psychological Reactance Theory; individuals tend to resist advertising strategies that threaten their freedoms, but this resistance diminishes when they perceive a sense of control over the ads (Brehm & Brehm, 2013). However, some studies demonstrate that when the perception of control is limited—for instance, even if a skip option is provided, the freedom to skip is constrained by specific rules, such as a mandatory 5-second viewing period or the absence of a defined timeframe for the "skip" option—ad avoidance behaviour may not be fully mitigated (Chen & Zhou, 2023; Jeon, Son, Chung, & Drumwright, 2019; Li & Yin, 2020; Belanche et al., 2017). In such cases, viewers often try to regain their sense of freedom. When these efforts fail, the perceived loss of control is directed at the advertiser or platform perceived as responsible for the situation (Kusse, 2013). These findings highlight the importance of ad strategies that enhance viewers' sense of freedom and demonstrate that personalising skippable ads plays a critical role in these strategies. When advertisements' perceived relevance and value (PRSA) is high, users tend to find ads less intrusive or disruptive, reducing avoidance behaviours. Consequently, these results confirm that increasing options that enhance consumer autonomy while ensuring a high degree of personalisation in ads can significantly improve the likelihood of ad engagement and viewership.

The findings related to perceived ad clutter and irritation of skippable ads highlight their significance as influential factors driving ad avoidance. These variables disrupt viewer experiences and contribute to negative judgments about ads' functionality and purpose. Irritation extends beyond the interruption of viewing experiences (Brechman et al., 2016), stemming from the perception of ads as an obligation. The tension between ads' attempts to capture viewers' attention and their intrusive presentation triggers psychological reactance, leading to resistance against ad formats and content.

In situations where the relevance of skippable ads is high, the mitigating effect of personalisation-induced perceptions of marketing surveillance emerges as a critical finding for consumer attitudes and ad effectiveness. This suggests that ads tailored to consumers' interests and needs can balance out negative emotions such as perceived intrusiveness and loss of control. High ad relevance enables personalised content to be perceived as valuable, transforming the ad from an annoying interruption into a meaningful contribution. This reinforces the consumer's sense of autonomy and helps tolerate the discomfort associated with marketing surveillance. Consequently, for advertisers, this finding highlights the importance of focusing on the accuracy of personalised ad targeting and consumers' perceived value of the ad. In this context, high relevance makes the consumer-ad relationship less intrusive and more collaborative, thereby reducing ad avoidance behaviour and enhancing overall ad effectiveness. This underscores that prioritising content relevance in ad strategies provides a strategic advantage by increasing consumer satisfaction and alleviating the risks associated with marketing surveillance perceptions.

Limitations and future research implications

This study examines the effects of skippable ad relevance and perceived marketing surveillance on consumer behaviour, yet it highlights several limitations that require further exploration. The influence of ad length on consumer responses was only partially addressed, leaving the optimal duration for skippable ads to be clarified. The effects of varying ad lengths (e.g., 5, 10, or 15 seconds) on viewer irritation, ad avoidance, and attention spans still need to be explored. Furthermore, ad length, relevance, and personalisation need more profound analysis. Such insights are essential for optimising consumer experiences while aligning with advertisers' strategic goals.

The study also overlooked the effects of different levels of personalisation on perceptions of marketing surveillance. Specifically, critical questions remain about how the depth of personalisation influences perceptions of relevance and irritation and at what point personalisation becomes intrusive. Moreover, the role of transparency—such as providing clear information about why an ad is shown—needs to be examined. Transparency in personalisation could help mitigate perceptions of intrusiveness and enhance consumer trust by framing personalised ads as a value-added experience.

Another critical gap is the need to consider the cumulative effects of repeated ad exposure. Depending on contextual and individual factors, ad frequency can increase consumer tolerance through familiarity or exacerbate irritation. Understanding the interaction between ad frequency and elements like relevance, personalisation, and contextual alignment is critical to addressing long-term consumer attitudes toward skippable ads.

The study also did not account for individual differences, which significantly shaped consumer responses. Psychological traits such as levels of reactance need for control, tolerance for interruptions, and demographic variables like age, gender, and digital literacy are crucial for understanding and tailoring advertising strategies to diverse consumer groups. Cultural contexts were another critical factor that should have been considered in the research. Ad perceptions may vary significantly between individualistic and collectivist societies. For example, while individualistic cultures emphasise control and autonomy in ad interactions, collectivist cultures prioritise contextual harmony and group norms. Additionally, consumer responses to ads may vary across platforms such as YouTube, Netflix, and gaming applications, influenced by cultural and contextual expectations. Incorporating such factors would enable the development of more effective and culturally sensitive advertising strategies. Finally, the study needed to sufficiently explore the thematic and emotional aspects of ad content. Emotional appeals such as humour, storytelling, or values-based messaging could significantly moderate perceptions of relevance and irritation, potentially reducing ad avoidance behaviours even when personalisation or marketing surveillance is present. Future research should examine how such elements influence consumer engagement and contribute to more meaningful ad experiences.

Addressing these limitations is crucial for optimising skippable ads and developing user-friendly strategies. Future studies should delve deeper into ad duration, contextual relevance, personalisation depth, and transparency to uncover their impact on consumer satisfaction and engagement. Additionally, research should focus on making marketing surveillance more transparent and acceptable to consumers. Insights from these studies would significantly advance both academic understanding and practical implementation of advertising strategies, ultimately fostering more effective, consumer-centric, and satisfactory ad experiences.

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Author Contributions:

Idea/Concept/Design: **M.H.S.**, **İ.K.** Data Collection and/or Processing: **M.H.S., İ.K.** Analysis and/or Interpretation: **M.H.S.** Literature Review: **M.H.S.** Writing the Article: **M.H.S.** Critical Review: **M.H.S., İ.K.** Approval: **M.H.S., İ.K.**

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Appendix

Appendix 1: Constructs and Measurement Items

Pre-roll Advertising Avoidance (Chen & Zhou, 2023)	"I intentionally ignore any pre-roll ads."
	"I intentionally don't put my eyes on any pre-roll ads."
	"I intentionally don't click on any pre-roll ads even if the ads draw my attention."
	"I hate pre-roll ads."
	"It would be better if there were no pre-roll ads."
	"I scroll down Web pages to avoid pre-roll ads."
	"I will buy a membership to avoid pre-roll ads."
	"I do any action to avoid pre-roll ads."
	"If there is a skip button, I will click it."
	"I view other contents during the duration of the pre-roll ad."
Perceived ad clutter (adapted from Cho and Cheon, 2004, Speck and Elliott, 1997b)	"There are too many advertisements on the Internet."
	"Internet advertisements are very repetitive."
	"Web sites are full of advertising messages."
	"We Internet users are inundated with so much online advertising."
	"I think online videos are now used almost exclusively for displaying ads."
Irritation Skippable Ads (Ducoffe, 1996; Jain et al., 2018; Aslam et al., 2021)	"Skippable /full-length advertisements are irritating."
	"Skippable /full-length advertisements are annoying."
	"Skippable /full-length advertisements are distracting."
Perceived Autonomy (Adapted from Dammers et al., 2022)	"If I could have chosen, I would have preferred not to see pre-roll ads."
	"I feel that I am acting according to my own preferences when it comes to watching ads."
	"I had the choice to skip or ignore the pre-roll ads if I wanted to."
	"I feel very restricted when I am forced to watch pre-roll ads. (reverse-coded item)"
	"I feel that I am able to choose my own way of dealing with pre-roll ads."
Perceived Marketing Surveillance (Segijin et al., 2022)	"When I imagine the media situations presented earlier happening to me, I would feel that advertising companies were watching your every move."
	"When I imagine the media situations presented earlier happening to me, I would feel that advertising companies were checking up on you."
	"When I imagine the media situations presented earlier happening to me, I would feel that advertising companies were looking over your shoulder."
	"When I imagine the media situations presented earlier happening to me, I would feel that advertising companies were entering your private space."
	"When I imagine the media situations presented earlier happening to me, I would feel that advertising companies were watching your every move."
	"I feel that customised ads have value to me."

Perceived Ad Relevance (adapted from Laczniak & Muehling 1993; Ciuchita et al. 2023; Aiolfi et al. 2021)	"I feel that customised ads are relevant to my needs."
	"I think customised ads were created just for me."
	"I think it's worth paying attention to customised ads."
	"I think customised ads deserve to be remembered."
	"I think customised ads are useful for me."
	"I think customised ads are interesting."
	"I think customised ads will probably give me new ideas."