LUNDS UNIVERSITET
Ekonomihögskolan

Institutionen för informatik

Removal of Third-Party Cookies

Exploring Swedish Retailers responses towards a cookieless future

Kandidatuppsats 15 hp, kurs SYSK16 i Informatik

Författare: Valentino Erceg
Vu Phan

Handledare: Umberto Fiaccadori

Rättande lärare: Nam Aghaee
Benjamin Weaver

Removal of Third-Party Cookies: Exploring Swedish Retailers responses towards a cookieless future

ENGELSK TITEL: Removal of Third-Party Cookies: Exploring Swedish Retailers responses towards a cookieless future

FÖRFATTARE: Valentino Erceg, Vu Phan

UTGIVARE: Institutionen för informatik, Ekonomihögskolan, Lunds universitet

EXAMINATOR: Osama Mansour, Docent

FRAMLAGD: Maj, 2024

DOKUMENTTYP: Kandidatuppsats

ANTAL SIDOR: 55

NYCKELORD: Third-party cookies, Deprecation, GDPR, Personalized Advertising, User Data, Strategies, Technical considerations

SAMMANFATTNING (MAX. 200 ORD):
The deprecation of third-party cookies poses significant challenges for Swedish retailers, as explored in this study, focusing on their readiness and strategic responses. With upcoming browser limitations and strict privacy regulations like GDPR, retailers are compelled to navigate the transition towards a cookieless digital future. Using semi-structured interviews, this qualitative research gathers perspectives from various retail stakeholders, revealing their concerns and adaptive strategies. Findings indicate a noticeable reliance on third-party cookies for targeted marketing and highlight the strategic pivot towards first-party data, contextual advertising and server-side tracking. Although alternatives are being adopted, none fully replace the capabilities of third-party cookies. This thesis enhances understanding of the digital marketing landscape's evolution, suggesting a pressing need for further research into effective adaptation strategies that ensure competitive advantage and compliance with privacy standards.

Table of Contents

Figures

Tables

1 Introduction

1.1 Background

In recent years, it has been stated that data has become the most valuable resource in the world – with profits of the tech giants Alphabet, Apple and Microsoft surging by dominating the digital advertising market in America (Economist, 2017). Advancements in technologies along with smartphones and the internet has resulted in the data becoming more abundant, ubiquitous and significantly more valuable due to every activity leaving digital traces, enabling artificial-intelligence (AI) techniques such as machine learning to extract more value from data or refining the algorithms to make better predictions (Economist, 2017).

These digital traces, which include web cookies among other elements serve various purposes like storing a user's website settings but are also exploited for commercial activities like user tracking and advertisement targeting (Rasaii et al., 2023), which in turn, has led to a rise in data privacy concerns despite the many advantages and benefits as more consumers become aware of how companies are using their data (Goswami, 2020). Beyond the significant increase in personal and sensitive information collected and stored digitally, the consumers who have become highly concerned about their data privacy are particularly among those who are younger, have higher levels of education, and use smartphones frequently (David et al., 2023).

Although these concerns have existed for a long time, various data protection laws have been enacted only recently in the past few years as the technology continues to advance. This includes the European Union's General Data Protection Regulation (GDPR) which came into effect in 2018 (Rasaii et al., 2023). The purpose of GDPR is to protect individuals' fundamental rights and freedoms – particularly their right to protection of their personal data, giving users more control over their personal data (IMY, 2024). In accordance with the regulations, websites are required to hold a high level of transparency, meaning they have to inform visitors what kind of data they collect through cookies and are obliged to ask consent for all cookies other than functional cookies (Strycharz et al., 2021).

In a study conducted by Internetstiftelsen (2021), 8 out of 10 Swedish internet users were concerned about how large companies like Google collect and use their personal data and internet usage. This collection of data is acquired through various means, including cookies (Google, 2024). The most common types of web cookies include first-party cookies and third-party cookies, with the latter being more controversial and intrusive mainly used for cross-site tracking, retargeting and online advertising by using identifiable personal information like consumer and web-browsing history to provide a more personal experience (Komnenic, 2022; Mitchel, 2012).

Consequently, web browsers like Firefox and Apple's Safari had previously already started deprecating third-party cookies (Juškaitė & Janušauskaitė, 2021) which now has been followed by Alphabet Inc.'s Google, who also holds the largest market share over all internet browsers (Fleck, 2023). According to Fleck (2023), Chrome is being used by 63.6 percent of internet users worldwide.

Google has now begun to act and officially started its process of phasing out third-party cookies for 1% of users for their Chrome browser, with plans to phase out third-party cookies more broadly in the second half of 2024 (Love, 2023). Being the most widely used internet browser in the world gives it a significant influence due to its dominance, forcing business companies to look for new alternatives or strategies if they wish to remain competitive (Juškaitė & Janušauskaitė, 2021).

1.2 Problem Area

Knowing the benefits of third-party cookies, it is clear that alternatives to replace this technology needs to be explored (Juškaitė & Janušauskaitė, 2021). The data provided by the cookies are used by online advertisers to help track their website visitors, enabling them to design more individually relevant purchasing experiences while effectively improving the user experience (Mitchel, 2012). With the phase-out of the third-party cookies, this change is currently disrupting the online marketing industry and is expected to initiate a shift in the digital marketing ecosystem, creating potential consequences in data collection and targeting capabilities for companies.

According to a survey conducted by Epsilon (2020), about 80 percent of digital marketers are very or moderately reliant on third-party cookies, and fewer than half of those surveyed (46%) feel “very prepared” for the change, which indicates potential upcoming problems in the digital advertising market. These statements correspond to Engdahl & Eidmann (2023), as well as Elmér & Nilsson’s (2022) research conducted in the Swedish market on how businesses are affected by the loss of third-party cookies. According to Engdahl & Eidmann (2023), their research concluded that the majority of the Swedish organizations lack a real strategy in confronting the upcoming challenges based on the removal of third-party cookies, much due to being either unaware or a lack of knowledge in regard to the alternatives replacing the data the third-party cookies bring. As for SMEs (small to medium-sized enterprises), the companies are expected to struggle as a consequence of limitations on the capabilities in tracking customer behavior online. Cohen (2022) suggests that the elimination of third-party cookies will prompt marketers to overhaul their digital strategies.

However, Elmér & Nilsson (2022) expressed that there was no solution that seemed to be a direct replacement to third-party cookies, but rather to outline strategies that would perform similar results. Thus, our objective with this thesis will be to analyze the current collective situation of the Swedish retailers, following up with their concerns and possible strategies while investigating the new alternative solutions that have been proposed by the different platforms.

1.3 Research Proposal

Based on the aforementioned and delimited scope of discussion, we pose the following research question:

How do Swedish retailers perceive the impending removal of third-party cookies, and what concerns and future strategies are they considering?

1.4 Purpose

The paper will dive deeper into the upcoming change regarding the removal of third-party cookies. The main purpose of the thesis is to research the potential challenges and considerations retailers in Sweden will face, and what their future strategies against the removal of third-party cookies are. Based on qualitative deep discussed interviews with Swedish retail companies, our goal is to contribute to the already existing studies on this subject in hopes to add useful information and knowledge which can be functionally usable when analyzing how retailers are going to be affected by this global event. Additionally, as the area of digital advertising is constantly evolving, our research will contribute to already existing studies by bringing new perspectives and insights as the study is being conducted at a different point in time due to new regulations and solutions being frequently introduced by the various platforms.

1.5 Delimitations

This thesis will only be conducting research based around SME retailers located within Sweden, as it is the most suitable limitation in hindsight to our given circumstances. The study will be conducted based on four SME and their IT-/marketing department.

2 Literature Review

In the literature review of the thesis, we present relevant sources regarding the topic of third-party cookies. The literature review will provide descriptions of previous research conducted within the realm of third-party cookies.

2.1 Web Cookies

Web cookies, which are often referred to as browser cookies or HTTP cookies are small pieces of data transmitted from a website which are stored on a user's device through the web when they are in a browsing session. These elements serve multiple purposes, including remembering stateful information (e.g., items in a shopping cart) or tracking the user's browsing activities (such as which buttons were clicked under their session, their login status, or previously visited pages). Cookies are also used to remember user-entered information in forms, like names, addresses, passwords, and credit card numbers (Pirilä, 2023). The server manages this by creating a new unique ID of the user's interaction with the website and stores it dependent on the device's IP address to remember each individual user.

Cookies are very useful for strengthening user interaction with websites by contributing with smoother navigability and functionality. For example, they enable the persistent operation of online shopping carts over several browser sessions, which means that everything the user left in the cart last web session will remain once they return to the website. This information can further be usable by the owners in various ways to adapt and optimize the website, resulting in a more pleasant user experience. Cookies are used for both first-party and third-party purposes, each serving distinct functions (Bushati et al., 2023). While cookies are essential in refining web interactions through enhanced efficiency and personalization, they also introduce privacy considerations and problems. In particular, the third-party cookies used for tracking and advertising. The ongoing balance between functionality and privacy continues to influence regulatory developments and technological advancements, guiding the future application of web cookies (Pirilä, 2023).

2.1.1 First-party Cookies

First-party cookies are generated and placed by the website the user is actively visiting. These cookies are generally regarded as secure and aim to increase the user experience by remembering login credentials, language preferences, and other site specific settings for a more enjoyable browsing experience. Being directly associated with the visited domain, they enable websites to offer an experience that recognizes user interactions within that domain. Primarily, first-party cookies are used for analytics, language settings, and other functions critical to delivering a satisfactory user experience (Bushati et al., 2023).

2.1.2 Third-party Cookies

Third-party cookies are established by domains other than the one being visited by the user, earning them the "third-party" designation. Third-party cookies are usually placed on websites by adding specific scripts or tags, which then loads the third-party server code. By adding the third-parties tags to a page, the advertiser gets access to tracking a user's behavior across multiple websites. Their main applications include, as mentioned, advertisement purposes, cross-site tracking and retargeting (Sanchez-Rola et al., 2017). For instance, an advertiser may use a third-party cookie to monitor a user's browsing habits across various sites displaying its ads, facilitating the creation of a comprehensive profile of the user's preferences for more targeted advertising. These cookies have sparked privacy concerns and have led to regulatory measures like the General Data Protection Regulation (GDPR) in the European Union. The evolving landscape of privacy concerns and browser limitations is steering the digital advertising sector towards new methodologies for personalization and tracking (Elmér and Nilsson, 2022).

However, the transition away from third-party cookies is not straightforward. While organizations are under pressure to comply with GDPR, the role of third-party cookies in personalized marketing remains critical. Companies and digital communicators must adapt to these changes without compromising on their marketing success (Guida, 2021). As a result, there has been a shift towards developing alternative methods that align with user privacy while ensuring targeted advertising. This includes a greater reliance on first-party data, contextual advertising, and the implementation of privacy-focused ad technologies that do not rely on third-party cookies (Schechner, 2021).

2.2 Data-driven Marketing Communication

Today, consumers can be reached at any time of the day through their mobile devices as they carry their smartphones practically everywhere, which further implies that consumers can now access almost any type of media content at any time or place. This prevalence of mobile-based communications enables new opportunities for marketers to advertise, build consumer relationships, and receive responses directly from customers (Lee & Cho, 2019). The widespread use of the Internet and smartphones has enabled an abundance of data available for analysis, which has led to the emergence of data-driven marketing.

Data-driven marketing refers to the process of collecting, integrating and analyzing customer data in order to optimize and provide guidance to marketing operations, ensuring that decision making and judgment related to marketing activities is done through data with no personal intuition or experience (Lee & Cho, 2019). This data is acquired through various sources, such as e-mail marketing, digital content (e.g. websites, blogs, podcasts), social networks (e.g. Facebook, Instagram, Twitter), and mobile ads (Lee & Cho, 2019). The abundant availability of detailed consumer data which are digitally stored and analyzed has enabled new marketing strategies to better match customer requirements (Lee & Cho, 2019). As detailed and precise data on consumers become increasingly available, the future of digital advertising is expected to lie in more personalized communication (Lee & Cho, 2019). This trend highlights the

significance of utilizing data insights to tailor marketing campaigns to individual preferences and behaviors, thereby improving overall engagement and effectiveness in reaching their respective target audiences.

2.2.1 Personalized Targeted Advertisements

By using third-party cookies, advertisers can more effectively target audiences while providing them with more personalized content through technologies like online behavioral advertising (OBA), which relies on the ability to track a user's web-browsing behavior over time and across multiple websites (El Hana et al., 2023). Using this data, Aziz & Telang (2016) highlighted that targeted advertisements are generally more effective when they are directed to users who already have an interest. The same users tend to also respond more positively towards targeted advertisements, beyond generating more revenue to the firm (Aziz & Telang, 2016).

However, personalized user experience comes with a cost, which is most often paid in the form of sharing personal data with first and third parties (Çınar & Ateş, 2022). Using web tracking with OBA, personal information such as interests, location, gender and age can be acquired which are then used by advertisers to personalize messages to consumers based on their characteristics (El Hana et al., 2023).

While personalized advertisements facilitated by third-party cookies offer benefits such as enhanced relevance and engagement for users, they also raise concerns about privacy and data security. In a study conducted by Harris Interactive, the TRUSTe Privacy Index from 2014 revealed that 92 percent of consumers worry about their privacy online, while 89 percent responded that they would avoid doing business with companies that do not adequately protect their privacy (Aziz & Telang, 2016).

Despite the heavily negative public perception of data collection done by advertising firms, advertisers argue that by employing sophisticated algorithms to tailor ads accordingly towards the users' preferences, as well as showcasing them products and brands they trust increases the relevance of ads, benefitting both consumers and advertisers (Aziz & Telang, 2016). Although, while the targeted ads were concluded to be effective according to Aziz & Telang's (2016) study, the impact on the probability for a purchase was marginal and not statistically significant. Thus, firms will have to assess whether the targeted advertisements are worth the cost of the considerable resources in collecting comprehensive consumer data, as well as the privacy costs, in addition to the potential regulatory burden which may turn these marketing strategies as more unappealing options both socially and economically.

2.2.2 Consumer Retargeting

According to Sipior et al. (2011), cookies were initially intended to improve the user's experience on websites by enabling a user to return to a site in the same state as it was when it was left off during previous visits. This form of advertising is known as retargeting, which involves targeting individuals who have visited a website or viewed a product page but have yet to complete a purchase or any desired action during that session (El Hana et al., 2023). In turn, these individuals will be specifically targeted to encounter tailored advertisements while they are on the web, enticing them to revisit the merchant's site to hopefully complete their purchase (El Hana et al., 2023).

In a study conducted by Sahni, Narayanan, & Kalyanam (2019), the data revealed that retargeting significantly increased the likelihood of users returning to the website, thereby increasing customer engagement and visit frequency. However, this particular advertising strategy requires highly specific and detailed information regarding customer behavior and purchase intent primarily due to its design, in that the target consumer is already aware of the advertised product from having viewed it previously (Sahni et al., 2019). As such, while retargeting can be highly effective, it also raises concerns among customers regarding privacy infringement or giving the user the feeling of being constantly under watch (Kantola, 2014).

Based on these concerns, the question of how retargeting advertisements should be designed is evaluated to aim for an optimal balance between ad personalization and accuracy in order to avoid an overly intrusive approach.

2.3 Data Privacy Concerns

Since its emergence, third-party cookies have been the cornerstone of the AdTech ecosystem, as well as being the primary source for data privacy concerns. Today, users are demanding greater privacy like transparency, choice and control over how their data is used – pushing the boundaries further for browsers and marketers to meet the increasing demands. Mayer & Mitchell (2012) highlighted the benefits and drawbacks of third-party services – stating that while the data supports free content and facilitates web innovation, it comes with a privacy cost. In recent years, researchers, civil society organizations and policymakers have called attention to the increasing trend of third-party websites recording and analyzing user's browsing activities across unrelated first-party websites, giving rise to data privacy concerns (Mayer & Mitchell, 2012).

2.3.1 GDPR

In the last couple of years, efforts towards improving user privacy have been realized, in addition to increased privacy awareness among users which prompted the implementation of the European Union's General Data Protection Regulation (GDPR) in 2018 (Geradin et al., 2020). From that point forward, any service or business that collects or processes personal data in Europe would be subject to its privacy regulations, which meant that many businesses had to adjust their data handling processes, consent forms, and privacy policies to comply with GDPR's transparency requirements (Strycharz et al., 2021; Degeling et al., 2019). GDPR.eu (2024) lists five essential criteria for complying with the cookie regulations established by the GDPR:

- Receive users' consent before you use any cookies except strictly necessary cookies.
- Provide accurate and specific information about the data each cookie tracks and its purpose in plain language before consent is received.
- Document and store consent received from users.
- Allow users to access your service even if they refuse to allow the use of certain cookies
- Make it as easy for users to withdraw their consent as it was for them to give their consent in the first place.

Thus, businesses must fully disclose how they handle personal data, the legal bases for their data processing as well as the need to offer their users tools for granting individual consent, data access, data deletion, and data portability (Degeling et al., 2019). Millions of web services were impacted by the GDPR since it applied to all businesses independent of location, as long as it offered its service in Europe (Degeling et al., 2019).

Initial research regarding the impact of GDPR on web privacy revealed immediate positive outcomes, with the majority of websites adapting to the new regulations by implementing measures such as cookie consent banners (Degeling et al., 2019). However, Degeling et al. (2019) clarified that while the adjustments may have brought positive results, the increase in transparency could lead to a false sense of privacy and security for users, as few websites offer their users actual choice regarding cookie-based tracking. Additionally, users are presented with an increasing number of privacy notifications that may fulfill the law's transparency requirements but are unlikely to actually help web users make truly informed decisions about their privacy, in which Strycharz et al. (2021) emphasizes on their study where offering respondents higher level of legal knowledge did, in fact, not result in a change in view on data collection but rather made them feel more confident in handling situations where their data might be involved. These results highlight the complexity of the ongoing difficulties in addressing privacy concerns, as it became increasingly apparent that it goes beyond regulatory compliance. As a result, recent discussions surrounding the depreciation of third-party cookies have been lifted to the growing concerns over data privacy.

2.4 Deprecation of Third-party Cookies

2.4.1 Previous Research Regarding the Deprecation of Third-party Cookies

Previous research surrounding the deprecation of third-party cookies and its implications for digital advertising reflected both concern and optimism regarding what lies ahead in the future, prompting significant research into alternative marketing strategies as new strategies and replacements of third-party cookies are being introduced.

Çınar & Ateş (2022), Stallone et al. (2022), as well as Mendys & Jensen (2021) underscore the pivotal shift towards first-party data, emphasizing its potential to become one of the key resources for the AdTech ecosystem in the new era. However, Çınar & Ateş (2022) highlights the fact that as the amount of first-party data the companies collect will increase, so do their responsibilities to protect personal data, correlating to Mendys & Jensen's (2021) statements in their study of Danish SMEs in e-commerce – further noting that collecting the valuable first-party data will require a greater focus which involves creativity and trade-off, as the consumers according to their survey were not enthusiastic about a larger collection of first-party data.

Engdahl & Eidmann (2023) expressed concerns over the concentration of power among tech giants like Google after the elimination of third-party cookies, highlighting potential oligopolistic tendencies and the emergence of potential new industry standards like Google's Privacy Sandbox or the already existing Walled Gardens (e.g. Google, Meta or Amazon) in the AdTech industry. A Walled Garden is a closed platform or ecosystem where the technology provider controls the hardware, applications or the content that is being shared among the participating parties (Wizaly, 2023). This sentiment is shared by Çınar & Ateş

(2022), Elmér & Nilsson (2022) as well as Mendys & Jensen (2021), as the pursuit of first-party data could put smaller businesses and publishers at a disadvantage given their limited data resources. Additionally, Elmér & Nilsson (2022) mentions that some of these new solutions and strategies are both costly and require technical expertise, in which Mendys & Jensen (2021) builds upon on the fact that this shift will increase the value of SEO specialists to collect and utilize data as well as finding developers that can customize websites to track user journey across sites. As a result, the smaller brands and publishers might have to rely more heavily on the infrastructure and data provided by Walled Gardens to connect with their target audiences.

Regarding alternative marketing strategies, Lönberg et al. (2022) points out the absence of a singular solution that replaces third-party cookies, instead leading to a diverse array of alternative solutions that marketers will prioritize based on their goals and resource availability. Elmér & Nilsson (2022) reinforced this conclusion in their study by identifying a range of emerging strategies aimed at circumventing the limitations posed by the deprecation of third-party cookies. Some of these strategies include server-side tracking, leveraging first-party data, contextual advertising, email marketing, SEO, and content marketing. More importantly, Elmér & Nilsson (2022) made it clear that none of these options appeared to be a direct replacement to third-party cookies, but rather strategies that might gain more traction or yield comparable effects.

Collectively, these studies shed light on the dynamic landscape following the deprecation of third-party cookies, which is characterized by a proliferation of strategies, a reorganization of power dynamics and a heightened emphasis on data responsibility and consumer privacy. Although there are still some uncertainties, there is a growing agreement regarding the shift towards prioritizing first-party data as well as adjusting to the changing industry standards, shaping the future of digital advertising.

2.4.2 Current Situation of the Major Web Browsers

In the name of user privacy, the major browsers have now started taking a series of measures to restrict the ability for tracking and identifying users, shaking the very core of online advertising. For example, Apple announced back in 2017 that it would be releasing a new privacy feature called Intelligent Tracking Prevention (ITP) with the goal of limiting the use of cookies on Safari (Sweeney & Zawiślak, 2024). The new feature uses machine learning to block cross-site tracking, thus limiting the tracking while still enabling websites to function normally (Safari Privacy Overview, 2019).

Following Safari's lead, Mozilla introduced and enabled its new privacy feature Enhanced Tracking Prevention (ETP) as the default setting for their Firefox browser in 2019, providing protection for all its users on the aspects of privacy and security by blocking third-party cookies (Wood, 2019). In response to the shifting landscape, Google has recently begun to act with its web browser, Google Chrome, dominating the global market with a share of 63.6 percent (Fleck, 2023). Due to its size as the leading web browser, it is anticipated to have a significant impact on the online advertising market (Elmér & Nilsson, 2022).

However, Google's approach differs slightly from Safari and Firefox. Instead of outright blocking third-party cookies, Chrome has initiated a deprecation procedure consisting of different phases through its open-source initiative: the Privacy Sandbox (The Privacy Sandbox, n.d.). The Privacy Sandbox will function in the following way: by implementing a

series of new web standards and Application Programming Interfaces (APIs) that aim to secure user data while supporting web functionalities that businesses rely on, such as advertising. These APIs will enable browsers to handle data in a way that keeps it on the user's device, rather than sharing it across sites or with third parties. For instance, the Topics API will allow interest-based advertising without tracking user behavior across sites, using topics derived from the user's browsing history which are stored locally. (The Privacy Sandbox, n.d.). Google began testing these solutions in early 2024 by restricting third-party cookies for a 1% of Chrome users (Privacy Sandbox, 2024). If successful, this approach could offer a compromise between user privacy and the needs of the online advertising industry.

Compared to Safari and Firefox, this deliberate approach to transition from third-party cookies provides the industry with sufficient time to adopt these new solutions, allowing developers to give feedback as well as evaluate the new APIs. Furthermore, this helps ensure that the web can continue functioning without relying on cross-site tracking identifiers or covert techniques like fingerprinting when Chrome starts the phase-out process of the third-party cookies during the second half of 2024 (Chavez, 2022).

2.5 Diffusion of Innovations Theory

The Diffusion of Innovations Theory, developed by Rogers (2003) is a comprehensive framework examining how new ideas, products, technologies and advancements are spread throughout societies and cultures. The theory aims to provide an understanding of the processes involved in the adoption of new ideas and practices, exploring the reasons behind the acceptance or resistance regarding the rate of adoption where some ideas may get adopted more quickly while other ideas may be more resistant or hesitant towards change (Rogers, 2003).

Central to this theory are the stages by which individuals adopt an innovation, which include **Awareness** (of the need for an innovation), **Persuasion** (in considering the innovation's **Compatibility** with existing practices), **Decision** (to adopt or reject the innovation), **Implementation** (of the innovation to test it), as well as **Confirmation** (of the innovation, fully integrating it into an individual's life).

To help explain the different rates of adoptions, Rogers (2003) outlines five qualities that influence the adoption process:

1. **Relative advantage**
    a. Refers to how much better an innovation is perceived to be in comparison to the product it replaces, measured by different factors like economical worth, social prestige, convenience and satisfaction.

2. **Compatibility**
    a. Refers to the degree in which an innovation aligns with the existing values, experiences, and needs of potential adopters. Innovations that are compatible with the values and norms of a society tend to be adopted more rapidly.

3. **Complexity**
    a. Refers to the degree towards what extent an innovation is perceived as difficult to understand and use. Innovations that are perceived as simple and easy to

comprehend are more likely to be adopted quickly, while innovations that are perceived as complex or difficult to understand may face slower adoption rates.

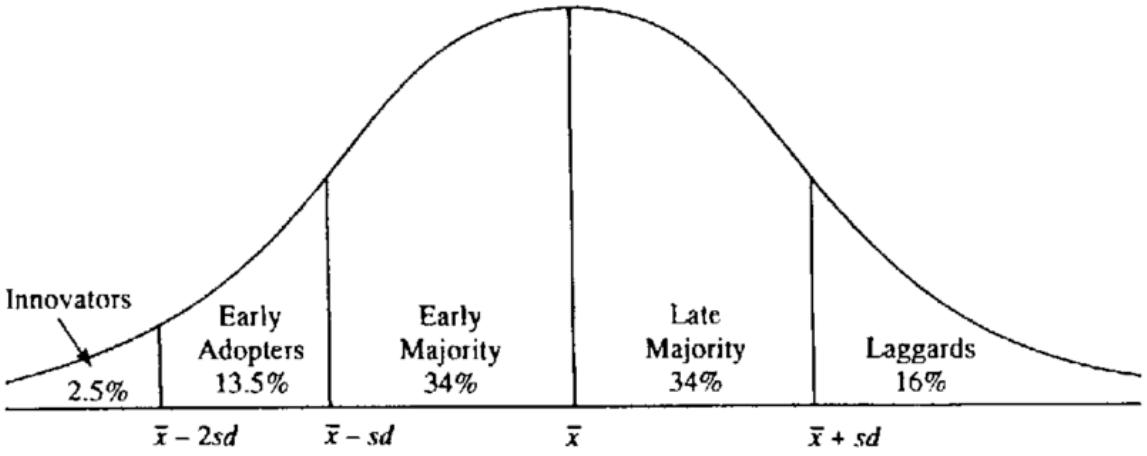
4. **Trialability**
    a. Refers to the degree towards what extent an innovation may be experimented with on a limited basis before full adoption. Innovations that allow individuals or groups to test them out before making a commitment are more likely to be adopted rapidly as it reduces their uncertainty regarding the value of the idea.

5. **Observability**
    a. refers to the degree for which the results of an innovation are visible to others. Innovations with results that are easily observable are more likely to be adopted quickly as their benefits can easily be seen, which also stimulates other individuals to spread their observation after witnessing the positive effects of an innovation in action, motivating further adoption.

Innovations perceived by individuals as greater in these qualities are said to be adopted more rapidly than other innovations – with past research indicating that these five qualities are the most important characteristics of innovations in explaining the rate of adoption, and that the first two attributes, relative advantage and compatibility are especially important in explaining an innovation's rate of adoption (Rogers, 2003).

Regarding the analysis of the diffusion of innovations within social systems, Rogers (2003) categorized members of a social system based on innovativeness into different types of adopters, as illustrated in Figure 1 below:

Figure 1: Adopter categorization on the basis of innovativeness (Rogers, 2003).



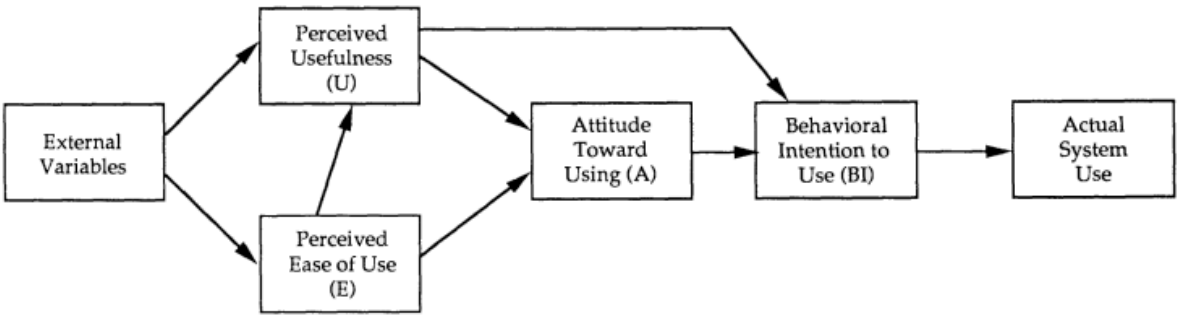
The five adopter categories include: (1) innovators, (2) early adopters, (3) early majority, (4) late majority, and (5) laggards, with each category representing a different segment of the population based on when they adopt an innovation relative to others in the social system (Rogers, 2003). For example, innovators will actively seek new information and have extensive social networks, while early adopters are still eager to try out new ideas or technologies but tend to be more cautious in their adoption decisions compared to innovators (Rogers, 2003). For the early majority, they tend to observe the experiences of early adopters

before making their own adoption decisions, and are often influenced by the experiences and opinions of their peers (Rogers, 2003). Late majority members tend to consist of individuals who are skeptical, adopting innovations only after they have become well-established and widely accepted within their social circles (Rogers, 2003). Laggards are the last to adopt innovations and are often resistant to change, characterized by their traditional and conservative values in their preferences to stick with familiar practices and technologies (Rogers, 2003).

2.6 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was introduced by Davis et al. (1989) and has since then been widely used by many researchers as it has become one of the most powerful models for explaining user acceptance and usage behavior (Davis & Venkatesh, 1996). Davis et al. (1989) introduced the model as an adaptation of TRA (Theory of Reasoned Action), another well-researched intention model in predicting and explaining behavior across a wide variety of domains, and it is therefore using TRA as a theoretical basis for explaining the connections between two main beliefs: perceived usefulness (U) and perceived ease of use (E). The differentiation is that TAM is specifically tailored for modeling user acceptance of information systems. Figure 2 below illustrates the model, with the purpose being to provide a foundation for studying the impact of external factors on user behavior, explaining on a simplified level the factors like the user's attitudes (A), intentions to use (BI) and actual system use for a certain system (Davis et al., 1989).

Figure 2: Technology Acceptance Model (Davis et al., 1989).



Davis et al. (1989) defines perceived usability as a user's subjective perception of whether the system will simplify the task it is used for. If the technology is perceived to be useful in this context, its likelihood of being used increases significantly. Perceived ease of use refers to whether the potential user believes the system will be simple or require effort to use. If the user does not see the system as intuitive and easy to use, it will drastically worsen their attitude towards the system and thus lead to a more difficult implementation (Davis et al., 1989).

2.7 Future Strategies without Third-party cookies

2.7.1 First-Party Data

As the use of third-party cookies for cross-site tracking and ad serving soon will be a thing of the past, new difficulties will be presented to track users across the open web. Meaning, new strategies to collect the same type of data within their own website domain or application have to be developed. This type of data is more referred to as first-party data (Long, 2022). First-party data is collected as first-party cookies from the company's own website, utilizing it to create personalized advertising. The advantage of using first-party cookies in regard to third-party cookies is: more efficient in terms of user privacy as the data collected is more anonymous because the targeting is based upon usage behavior rather than individual customer data (Long, 2022). Even though first-party cookies are not as effective as third-party cookies in personalized advertising and retargeting, it is still a free source of data that companies can collect detailed customer information from (El Hana et al., 2023).

2.7.2 Server-side Tracking (SST)

Server-side tracking (SST) is a technique for data accession implemented directly on a cloud server, in contrast to client-side tracking, which occurs within the user's browser. This method enables the collection of diverse user behavior and data types, including page views, clicks, and downloads (Hercigonja, 2024). Once the data has been collected, it undergoes processing and storage on the server, where it may also be enhanced through integration with first-party data. Tools such as Google Tag Manager Server-Side are utilized to further manage and structure the data, thereby facilitating the derivation of insightful analytics and marketing intelligence (Hercigonja, 2024). Due to the centralization of data storage and processing on the server, server-side tracking is less vulnerable to privacy concerns such as data breaches and leaks, rendering it a more secure alternative to conventional client-side tracking.

2.7.3 Search Engine Optimization (SEO)

Search Engine Optimization (SEO) is said to become one of the most important digital marketing strategies once third-party cookies are removed completely (Juškaitė & Janušauskaitė, 2021). The main goal with SEO is to increase website traffic by optimizing the web organic position on the Search Engine Results Page (SERP) on the web. SERP displays a list of results according to the searched keywords. Meaning, the web returns website domains which correlated with the users searched keywords the best (Juškaitė & Janušauskaitė, 2021).

2.7.4 Contextual Advertising and the incorporation of AI

Contextual advertising is another alternative for third-party cookies that is being embraced by many successful user-generated content websites, social networking communities, and affiliated advertising networks as the preferred advertising strategy to capitalize on (Melicher et al., 2016; Zhang & Katona, 2012). This targeting depends upon specific keywords to analyze the context of a web page. The keywords categorize which type of content the website displays and create ads where one thinks the target group falls within (Inoyatillo, 2020). The consideration with this approach is that keywords are restricted to their meaning

and can't reflect a full context. However, Ad Tech companies have developed new contextual advertising targeting tools based on natural language processing (NLP) and image recognition with the goal to understand the content and context of web pages with reliability, efficiency and speed, making it easier to precisely pinpoint the wanted website audience (Häglund & Björklund, 2022).

El Hana et al. (2023) states that this type of contextual advertising, being "semantic contextual advertising" which is defined as web page content analysis, is based on NLP and artificial intelligence (AI). A method that lets NLP and AI predict a customer's behavior or an interest given by the content of a web page. Constructing usable customer information to be used to establish the ideal audience targeting groups for once website.

2.7.5 Zero-Party Data

Incorporating Zero-party data (ZPD) as a potential strategy to navigate the deprecation of third-party cookies can be crucial. As explained in the research by Polonioli (2022), ZPD involves consumers voluntarily providing explicit information about their preferences and intentions directly to retailers, which can enhance the personalization of services and products without violating privacy norms.

The deployment of ZPD can serve as an approach amidst growing data privacy concerns. By using ZPD, retailers have the opportunity to encourage greater trust with consumers, who are increasingly aware of privacy issues and demanding more control over how their data is utilized. This strategy not only aligns with the rigorous standards set by regulations like GDPR but also addresses the technological shifts away from third-party cookies. Implementing ZPD allows companies to gather accurate, consented data, providing a sustainable and ethical framework to achieve personalized marketing objectives without reliance on potentially intrusive data collection methods. Therefore, ZPD can be a significant element in the toolkit of companies, helping them navigate the evolving digital market while respecting consumer privacy and enhancing data accuracy (Polonioli, 2022). Despite this, Polonioli (2022) argues that ZPD should not be viewed as a complete solution, but rather as an additional tool for retailers working alongside existing methods as the data is influenced by the consumers who have limited insight into the factors underlying their behavior.

2.7.6 Advertising in Social Media

As people spend an increasing amount of time online, social media has become an integral part of everyday life for billions of people around the world (Dwivedi et al., 2021). Businesses have responded to this change in consumer behavior by making social media an essential and integral component of their business marketing plans, as it allows the companies to achieve their marketing objectives at a relatively low cost (Dwivedi et al., 2021). However, it is important to have in mind that not all consumers are comfortable with what and how marketers use your social media data, as Jacobson (2020) states in his study. Jacobson (2020) continues to elaborate that while it is usually legally acceptable for third parties, such as marketers, to use publicly available social media data, it could have serious impacts on the marketers' practices. This could lead to consumers developing negative attitudes, which, in turn, may impact for example consumers' purchasing intention, leading to a damaged relationship between the consumer and the company (Jacobson, 2020).
Various social media platforms are used for marketing, with the choice of platforms

depending on the businesses target consumers and marketing strategy. According to Wong (2023), platforms such as TikTok, Instagram, Facebook (Meta) and YouTube are amongst the top for businesses to interact with their audience. Some benefits include enabling companies to connect with their customers, improve awareness of their brands, influence consumer's attitudes and receive feedback (Dwivedi et al., 2021). While social media enables companies to easily target a wide audience, there are drawbacks to consider for organizations when developing their social media strategy and plans. Consumers hold significantly more power in the sense that their complaints can be instantly communicated to millions of people, all of which can result in heavily impacting the business concerned (Dwivedi et al., 2021).

2.8 Summary of Literature

The following table organizes the literature that was used in the literature review to simplify the comprehension by providing a structured view. The sources are categorized according to three perspectives: Challenges, Considerations, and Strategies which all align with the purpose of our research. Each perspective is further divided into keywords and factors, with keywords summarizing the key takeaways and overall material retrieved from the literature and factors mapping each perspective with the appropriate section of the theories.

Table 1: Categorization of Literature

Perspective	Keywords	Factors	Literature
Challenges	Web Privacy, Personal Data, GDPR, Online Advertising, Tracking Protection, Data Processing	Compatibility, Complexity, Attitude towards using, Behavioral intention to use, Actual system use	*Guida, 2021; Çınar & Ateş, 2022; Mendys & Jensen, 2021; Aziz & Telang, 2016; Kantola, 2014; Mayer & Mitchell, 2012; Strycharz et al., 2021; Degeling et al., 2019; Lönberg et al., 2022*
Considerations	Transparency, User Consent, User Experience, Ethical implications	Relative advantage, Compatibility, Observability, Adapting to new changes, Privacy infringement & data privacy concerns	*Guida, 2021; Sahni et al., 2019; Kantola, 2014; Mayer & Mitchell, 2012*
Strategies	First-party data, Zero-party data, Server-Side Tracking (SST), Contextual Advertising, Search Engine Optimization (SEO), Natural	Relative advantage, Compatibility, Complexity, Trialability, Observability, Perceived usefulness, Perceived ease of use	*Lee & Cho, 2019; Çınar & Ateş, 2022; Stallone et al., 2022; Mendys & Jensen, 2021; Long, 2022; Engdahl & Eidmann, 2023; Elmér & Nilsson, 2022; Lönberg*

	Language Processing (NLP), The Privacy Sandbox		*et al., 2022; Hercigonja, 2024; Juškaitė & Janušauskaitė, 2021; Melicher et al., 2016; Zhang & Katona, 2012; Häglund & Björklund, 2022; El Hana et al., 2023; Polonioli, 2022;*

3 Methodology

The objective of this research is to examine the impact of the absence of third-party cookies for retailers in Sweden. It delves into their potential concerns surrounding its removal and potential future strategies for adapting to online marketing in the absence of these cookies, and investigates how this transition is communicated within these organizations. The aim is to gain a comprehensive understanding and explore the perspectives and reflections of the respondents.

3.1 Literature Research

In order to gain a comprehensive understanding and acquire a solid knowledge base, a literature research collection was conducted on the subject. The theories, concepts and research presented under Chapter 2 on the Literature Review was also retrieved by utilizing the same collection method, although with a different approach, forming the basis of our knowledge.

As an introduction to the subject in encapsulating a broad perspective on the current situation, internet articles found on the web were used in combination with more scholarly sources. As the phenomenon is still ongoing, there has not been much academic research on the subject yet which strengthened our decision to include internet articles when educating ourselves on the subject. The search would surround the main subject of "Third-party cookies", and then include a mix of different words in combination with third-party cookies, like "deprecation (of third-party cookies)", "phase out (of third-party cookies)" or "the end (of third-party cookies)". Although, Oates (2006) highlights the dangers of using internet articles as legitimate sources as the information could be misleading or partial by producing the document with a particular audience and purpose in mind. Thus, these sources were not included as a scientific basis for our research but solely used to gain an initial understanding on the subject and its current situation with the exception of the internet articles retrieved directly from the major browsers own websites, which was used to describe the current situation of the major web browsers under the subheading 2.4.2.

The scholarly resources for the literature collection were found with the help of the search tools Google Scholar as well as Lund University's own library collection LUBSearch, providing us with a comprehensive database of both academic articles and journals. These articles undergo a rigorous peer-review process and were carefully selected after evaluating the quality and validity of the research. To ensure the articles relevance and alignment with our research, an advanced search including specific keywords was utilized to narrow down the amount of search results after an initial search, retaining only the most relevant articles for our study. As our study is focused around investigating retailers in Sweden, the search words were used interchangeably between English and Swedish to include a greater range of articles. Additionally, the sources were also assessed based on their publication date, in regard to selecting recent published articles on the subject for greater relevance as the event is still ongoing.

For Google Scholar, the keywords were collectively used as a search string using all kinds of combinations between the keywords. This approach allowed us to explore the different amount of search results depending on the combination, enabling us to find the most suitable combination of keywords with the search yielding 197 search results, serving as a solid starting point for our research. The specific keywords were chosen based on the theme and direction of the research, capturing all the factors we intend to investigate on in our research that is being affected by the deprecation, and consisted of the following words:

- Third-party cookies,
- Deprecation,
- GDPR,
- Personalized Advertising,
- User Data,
- Strategies,
- Technical considerations,
- Swedish retail.

LUBSearch provided us with full-text access to scholarly resources within the field of informatics, using the IEEE Xplore which contains more than 6 million documents and other materials from some of the world's most cited publications in electrical engineering, computer science, and related sciences (IEEE Xplore, n.d.). It included access to IEEE journals, transactions, magazines, conference proceedings, standards, letters and IET (Institution of Engineering and Technology) publications.

The selected theories found under our literature review hold significant relevance in understanding the adoption dynamics and behavioral patterns for organizations and individuals, which we found to be appropriate as frameworks to construct the scientific basis of our thesis on. As our thesis centers around the deprecation of third-party cookies and its implications, the Diffusion of Innovations Theory provided us with guidance in examining how innovations or new practices are embraced or resisted within different societies and cultures. As it encapsulates the various stages of the adoption process stakeholders encounter when facing new technologies, the theory offers valuable insights on different perspectives. Moreover, by considering the five qualities that the theory outlines (relative advantage, compatibility, complexity, trialability, and observability) would help us in the evaluation of how potential obstacles might impact the adoption of alternative technologies or strategies when third-party cookies are gone.

In addition to the Diffusion of Innovations Theory, the Technology Acceptance Model (TAM) was chosen as a foundational framework for our thesis, providing a structured approach for examining how both users and organizations perceive the usefulness and ease of use of alternative technologies or strategies in the absence of third-party cookies. While TAM is mainly focused around understanding the user’s perspective on acceptance and behavior, it could also be of relevance in an organizational context in regard to assessing how different stakeholders evaluate and adopt new technologies or in the context of technological transitions – as is the case regarding the deprecation of third-party cookies and its alternative advertising and tracking methods.

3.2 Research Approach

As our objective with this study is to investigate how Swedish SME retailers are affected by the deprecation of third-party cookies, a qualitative research approach was chosen rather than quantitative. The reason behind this decision is based on the purpose of the research being to investigate the retailers' behaviors, perceptions and strategies, in addition to how they are adapting to this change which aligns with Bryman (2018) & Kvale et al. (2014) recommendations, who argue that qualitative methods are best suited for gathering detailed and in-depth information rather than broad knowledge on a subject. Furthermore, Recker (2021) expresses that a qualitative approach is especially helpful for exploratory research in investigating emerging phenomena or areas with limited existing knowledge, as is the case for the ongoing deprecation of third-party cookies which further supported our decision for adopting this approach.

3.3 Method for data collection

3.3.1 Semi–structured Interviews

Our choice of method for data collection settled on semi-structured interviews, as it allows both the interviewer and the person being interviewed the flexibility for follow-up questions and bidirectional discussions about the topic or other topics that could emerge during the interview (Recker, 2021). This decision aligned well with the analysis of how the Swedish SMEs retailers are impacted by the deprecation of third-party cookies, as they each hold a different perspective and approach regarding this event which enabled us to discuss more in-depth and with greater flexibility in regard to their opinions.

Furthermore, Adeoye‐Olatunde & Olenik (2021) describes semi-structured interviews as the preferred data collection method when the researcher's goal is to gain a deeper understanding of the respondent's unique perspective rather than a broad understanding of a phenomenon, which allowed us to explore and follow up on interesting or unexpected responses from the respondents.

In semi-structured interviews, the researchers prepare an interview guide – a set of questions on specific topics and follow this guide to a certain extent (Bell et al., 2019). This method maintains a form of consistency and standardization while still allowing room for flexibility, in comparison to unstructured interviews or structured interviews. While the interviewer may deviate from the guide based on the respondent's responses or follow-up questions, generally, all questions are asked and similar wording is used across different interviews (Bell et al., 2019), which allowed the respondents to express their thoughts and opinions without us imposing our own preconceptions or beliefs, thus providing us with a comprehensive understanding of their perspectives.

This allowed for a more tailored and relevant research approach, enabling us to ask the respondents relevant and meaningful questions, which ensured that the valuable data we collected addressed our research question accordingly.

3.4 Interview

3.4.1 Interview preparation

Oates (2006) emphasizes on the importance to plan and prepare before beginning with the interviews. For example, the preparation should include gathering background information on the respondents and their context like their job title and department, or more in-depth like researching about their organization in terms of company reports or recent news articles. By doing this, the respondents might be more willing to open up to the researcher, as it establishes the researcher's credibility as a professional from their point of view (Oates, 2006). Furthermore, it may help the researcher assess the accuracy of some of the information provided by the respondents (Oates, 2006).

Additionally, Oates (2006) states that it could be useful to send the respondents the list of topics and questions in advance to give them sufficient time to prepare and think about their views. Following this advice, we added two example questions onto the message that was sent out to the respondents as part of the interview request (see Appendix A) to give them some time to prepare, as well as a sense of the type of questions and issues that could appear during the interview.

3.4.2 Pilot Interviews

Prior to conducting our interviews, we held a pilot interview as a preparation to assess both the relevance and quality of our questions, as well as the structure of the interview guide. Janghorban et al. (2014) mentions that a pilot study helps in evaluating the adequacy of data collection and analysis. Additionally, by designing and conducting a pilot study with clear objectives, it may also enhance the precision and validity of qualitative research. Furthermore, researchers are able to get more acquainted with the research process and proactively address any unexpected issues, allowing them to behave more naturally later during the main interview (Janghorban et al., 2014).

The pilot interview was conducted with an alumnus who is currently working in an IT company today with the purpose to practice and refine our interviewing techniques, as well as determining the approximate time of the interview. Furthermore, this process allowed for reflection and assisted us in making minor adjustments towards a few questions regarding the order or questions that were either too ambiguous, demanding, or complicated to answer.

3.4.3 Interview Guide

As previously mentioned on the topic of semi-structured interviews, an interview guide (see Table 2) was prepared containing the predefined topics and questions to be covered. Depending on the flow of the conversation, additional questions were asked as the interview went on, which enabled the respondents to speak more specifically in detail about the topics and issues they found important and of relevance as they unfolded during the interview. Regarding the structure of interview guides, Bell et al. (2019) describes some basic elements in the preparation of an interview guide, such as to vary the types of questions asked containing the respondents values, beliefs, behavior, emotions, encounters and stories, in addition to the type of phenomena that is being investigated.

For our interview guide, we opted to begin with some introductory questions in order to familiarize with the surroundings of the respondents, such as their working environment as Bell et al. (2019) points out in that it helps the interviewer understand what he or she is saying in regard to the respondent's own terms. Following up are the main questions designed to explore the specific areas crucial for addressing the research questions outlined in our research proposal, as presented in Chapter 1 subheading 1.3. The questions were formulated to cover the relevant areas by delving into the respondent's perspectives on topics such as the current usage of third-party cookies, strategies for adapting to the phase out and potential impacts on marketing and advertising practices. Moreover, the questions (with the exception of the background-related, opinion-based and reflective questions) are defined and structured to align with the theoretical framework from Chapter 2, ensuring that the answers provided by the respondents will be beneficial for our study. With this, our aim is to gain new insights into how the deprecation of third-party cookies is affecting their businesses and how they are adapting to these new challenges.

When finishing up an interview, Bell et al. (2019) highlights the importance of ending interviews satisfactorily, providing the respondents with a chance to comment fully on the topic concerned and giving them the opportunity to raise any issues that they think have been overlooked based on the questions. Following this advice, we conclude the interview by inviting the respondents to share any additional challenges or opportunities they believe might not have been fully addressed during the interview. This open-ended question allows exploration of new potential perspectives or insights. Lastly, we also ask the respondents to summarize their overall stance on the impending change and its implications for both their organization and the broader industry which provides a comprehensive perspective on how the respondents perceive the challenges and opportunities presented by the deprecation of third-party cookies, possibly offering valuable insights for further analysis and consideration in our research process.

The questions in our interview guide (see Table 2), are carefully structured and organized according to their subject and theoretical framework, aligning with the categorization of literature as outlined in Chapter 2 (see Table 1). Within the subject column, each question corresponds to the specific perspectives we aim to explore, which are the challenges, considerations and strategies. For the theory column, the theories utilized for this thesis were integrated into our choice of questions, simplifying the process of analysis and interpretation of the data acquired for future reference.

Table 2: Interview Guide

Question	Subject	Theory
1. Kan ni berätta kort om ert företag? 2. Vilken är er roll inom företaget och vilka arbetsuppgifter innefattar rollen? 3. Hur länge har ni jobbat med denna roll?	*Background information, interview preparation*	
4. Hur använder ni tredjepartscookies inom er verksamhet idag? 5. Är ni medvetna om utfasningen av tredjepartscookies?	*Current situation*	*Awareness*

6. Hur beroende är ni av tredjepartscookies och hur tror du att de kommande utmaningarna med utfasningen av tredjepartscookies kommer att påverka er förmåga att samla in nödvändig kunddata? 7. Vilka strategier överväger ni för att kompensera för förlusten av tredjepartscookies data när det gäller riktad marknadsföring och reklam? 8. Har ni redan börjat anpassa er marknadsförings- och reklamstrategi inför den kommande förändringen, och i så fall hur?	*Challenges, Considerations, Strategies*	*Persuasion, Implementation, Confirmation, Relative advantage, Compatibility, Complexity, Trialability, Observability, Attitude towards using, Actual use, Perceived usefulness*
9. Anser ni utfasningen av tredjepartscookies som något positivt eller negativt?	*Opinion, Non-demanding question*	
10. Vilka teknologiska lösningar överväger ni för att samla in och använda kunddata på ett etiskt och integritetsvänligt sätt? 11. Hur kommer den här förändringen att påverka er förmåga att mäta och analysera kundbeteenden och köpmönster online?	*Challenges, Considerations, Strategies*	*Persuasion, Decision, Relative advantage, Compatibility, Complexity, Trialability, Observability, Intention to use, Perceived usefulness*
12. Tror ni AI har potentialen att kunna ersätta tredjepartscookies huvuduppgift? 13. Hur tror ni att denna förändring kommer att påverka er konkurrenskraft gentemot andra företag inom marknaden?	*Future strategies, Considerations*	*Persuasion, Decision, Relative advantage, Complexity, Observability, Intention to use, Attitude towards using, Perceived usefulness*
14. Finns det några ytterligare utmaningar eller möjligheter ni vill betona som vi inte redan har diskuterat? 15. Avslutningsvis, hur skulle ni sammanfatta er övergripande inställning till den kommande förändringen och dess påverkan på er verksamhet och branschen som helhet?	*Reflection, Overall perspective*	

3.4.4 Selection of Respondents

On choosing respondents for our interviews, we based the selection according to their job titles, aiming to include those who we believe would have sufficient knowledge about the topic to be discussed. The roles were primarily situated around the areas of digital advertising, marketing and the analytics sectors of the businesses, as these were the roles we found to be closely related to managing third-party cookies. Given their roles within their respective businesses, we believe that these specific job titles (see Table 3) are already familiar with third-party cookies and its usages across the digital landscape in regard to tracking user behavior, targeting advertisements, retargeting, and so on.

Moreover, as some of the roles consist of high-ranking executives, they are most likely to be responsible for devising strategies against the dynamic digital environment, which further implies that these individuals are likely to also have encountered some challenges and considerations considering the recent enactment of GDPR as well as the ongoing deprecation of third-party cookies. Thus, their perspectives and insights would be crucial for our research on analyzing the current situation of the Swedish retail market.

The respondents were partially selected by reaching out to companies directly through email, searching for individuals who held relevant positions within the digital advertising, marketing, and analytics sectors. Additionally, we used online platforms such as LinkedIn to conduct targeted searches using the specific keywords of the roles, which allowed us to identify professionals with the expertise and insights necessary for our discussions.

Lastly, we explored around our own network of connections and recommendations to identify potential respondents who could contribute with their valuable perspectives to our research.

Table 3: Job Titles

Keywords for job titles	
CMO (Chief Marketing Officer)	CDO (Chief Digital Officer)
Advertising Specialist	Digital Marketing Manager
Digital Communication Manager	Web Analytics
Digital Analytics	Analytics Lead

To the best of our abilities, we sought to ensure diversity among our respondents, sourcing from various sectors and industries to include a variety of perspectives and insights for us to establish a comprehensive understanding of the respondent’s view on the industry. However, this was partly neglected due to the low number of respondents we were able to interview, as factors such as time constraints limited our ability to reach a sufficient sample size.

The respondents we managed to interview are displayed under Table 4 below, consisting of both respondents situated around the areas of the analytics sectors in their businesses, and respondents in leading positions, which was what we had aimed for regarding the selection of candidates. Although the number of respondents were smaller than what we had intended, they still varied in their respective industries and years of experience, providing us with different valuable perspectives and insights.

Worth noting is that the respondent for our first interview did not grant us permission to record, but was fine with us taking notes during the interview. Given the circumstances, Bryman et al. (2019) mentions that it is not uncommon for some people to refuse recording for reasons such as being self-conscious or alarmed at the prospect of their words being preserved, but still recommends continuing with the interview, as it is highly likely that valuable information can still be collected even when recording is not an option. This resulted in difficulties regarding the transcription of the first interview. Despite the challenges, we tried our best to note down the most important details throughout the interview, as well as immediately transcribing after the interview while the memory was still fresh to ensure accuracy.

Table 4: Respondents

Respondent	Job Title	Organization	Years of experience	Duration	Type	Date
R1	Digital Analytics Expert	Digital Marketing Agency	11 years	00:29:04	Online	17/04/24
R2	Web Developer & Marketing Analyst	Moving Company	2 years	00:21:32	In Person	30/04/24
R3	CEO	Sneakers Retail Company	8–10 years	00:22:42	In Person	04/05/24
R4	Junior Digital Analyst	Fashion Retail Company	1 year	00:24:12	Online	05/05/24

3.5 Transcription

According to Widodo (2014), transcribing verbal data is usually the first step for data organization and analysis, which involves close observation of data through carefully repeated and attentive listening. Widodo (2014) defines transcription as the conversion of original spoken text into written form, emphasizing its role in data representation, analysis, and interpretation.

Regarding the transcription of verbal data, Widodo (2014) points out several strengths of this process. For example, by transcribing, the researchers get the chance to immerse themselves in the digitally recorded data by paying close attention to the nuances of speech, tone and context which facilitates a more thorough engagement with the interview which, in turn, helps the researcher achieve a deeper understanding and insight on the interview.

Along with the transcription of data, this process also allows the researchers to critique their own work and potentially improve on their own interviewing technique, such as modifying the interview questions or improving the overall structure of the interview (Widodo, 2014). Furthermore, Oates (2006) expands on the advantages of transcribing in that it is much easier to search through and analyze the data once it is in written form.

For our transcripts, we decided to take Widodo's (2014) suggestions from their study about methodological considerations in interview data transcription in account, which is to structure our transcripts into line-by-line dialogues which show turn-by-turn dialogic interaction between the interviewers and the respondent, allowing for easy data coding and analysis. Moreover, the names of the respondents were simplified through codes.

Lastly, to enhance the accuracy and contextual clarity of our transcripts, we cross-referenced between the respondents' lines and the responses in the transcripts to ensure the validation on the information they provided, and making sure that they aligned with the actual dialogue.

Using this structured approach, the otherwise comprehensive data analysis becomes more simplified and easy to work with, enhancing our ability to delve deeply into the verbal interactions.

3.6 Ethics

Ensuring ethical integrity in research involving humans is essential. Following Lind (2014), our research upheld the four pillars of research ethics: integrity, confidentiality, anonymity, and voluntariness. We informed all respondents about the purpose of our study and secured their voluntary consent verbally prior to conducting our interviews. Respondents were assured of their right to withdraw from the study at any point, maintaining the principle of free will.

Given the sensitive nature of data privacy in the context of third-party cookie removal, we strictly adhered to confidentiality agreements. The data collected were used solely to analyze the impact on Swedish retailers and to develop potential strategies for adaptation, ensuring careful data handling and respect for respondent's privacy (Lind, 2014). Moreover, our methodology involved in-depth interviews, which required recording and transcribing responses for some interviews. Respondents were informed about the procedures of the interview and reassured of their right to anonymity, ensuring that their identities would remain confidential throughout the study. We made sure that respondents were aware of its research and upcoming publication. They were offered the opportunity and allowance to verify how their data was represented and used in the study. This open communication further reinforces the ethical framework highlighted by Lind (2014) and ensures a transparent research process.

In addition to Lind's methodology, The personal data collected was processed in accordance with the GDPR and Ekonomihögskolan's (2023) guidelines in relation to student work conducted at Lund University. Regarding the processing of personal data for projects carried out for educational purposes, the guidelines prohibit any information that may reveal a respondent's identity (Ekonomihögskolan, 2023). Furthermore, no personal information collected should be stored or shared with external parties for any other purposes after completion of the examination (Ekonomihögskolan, 2023), with the only exception being to grant the supervisors access to the data upon request for verification purposes regarding the integrity of the data.

As the audio files from the recording of the interviews contained the respondents voices, it classifies as personal data as it can be used to determine their identities. Thus, in accordance with the guidelines, the audio files are not allowed to be stored on any external cloud service and were only stored locally on our password-protected computers for transcription purposes (Ekonomihögskolan, 2023).

3.7 Validity and Reliability

In addressing the validity of our research, we have carefully stuck to principles that guarantee the clearness of our research tools and methods, as well as the relevance of our conclusions to the intended researching goals. The conceptual framework for our approach to validity is derived from Bryman & Bell (2017) and Patel & Davidson (2019), emphasizing the crucial role of validity in every phase of the research process—from question formulation through data collection to analysis.

For this study, our foundational methodology involved semi-structured interviews with a various range of experts within digital communication and advertisement, ensuring a comprehensive perspective on the topic. The selection included both senior and junior professionals to incorporate a broad spectrum of insights and experiences, enhancing the validity of the findings. We grounded our interview guide and data collection in extensive literature reviews and existing studies, ensuring alignment with academic standards and empirical relevance. This approach not only strengthened the validity of our research but also enriched our understanding and interpretation of the data, leading to more insightful conclusions directly linked to real-world implications of the cookie deprecation.

In discussing reliability, Jacobsen (2002) emphasizes that results must be both authentic and dependable. To ensure the reliability of this study, it was necessary to outline the methodology clearly and in detail, enabling the replication of the study in the future. This was achieved by documenting each phase of the literature review and empirical data gathering transparently. Bryman (2018) notes the challenges in replicating qualitative semi-structured interviews due to their inherently variable nature. To address this, the interview guide was structured in a way to ensure that the questions could be consistently reused. Additionally, the questions were made and phrased to minimize misunderstandings and inconsistencies during the interviews. However, in some instances, the questions were adjusted to suit the interview conversation better.

4 Findings

The empirical result of the data acquired from our semi-structured interviews is presented below, presenting the discoveries we made while analyzing the empirical material. The chapter is structured according to the concepts identified during the analysis.
Furthermore, the respondents were abbreviated as R1 (Respondent 1), R2 (Respondent 2), R3 (Respondent 3) and R4 (Respondent 4) to avoid repetition.

4.1 Perception of the impending removal of third-party cookies

Based on the four interviews conducted with the representatives from the various retail companies, all participants had demonstrated awareness about the upcoming deprecation of third-party cookies and its potential implications for marketing and data collection, although R3 and R4 were only somewhat aware by having recognized the major browsers initial actions for the upcoming change (R3, #12; R4, #28).

"No, I haven't actually heard that. But I have heard that there is a browser that already started the process." (R3, #12, own translation).

"Uh... That Google... Yes, I might have heard something about it. Wasn't it just Google or did others also start their phase out of cookies or?" (R4, #28, own translation).

Between the participants, there was a variation in the understanding of the technical aspects and the broader implications of the change. R1 was highly knowledgeable of the technical aspects, acknowledging the significance of the impending change while R2 expressed familiarity with the technical aspects of third-party cookies as the job involved a lot of these aspects, emphasizing on the need for the company to adapt quickly and effectively (R2, #30).

"[...] if we manage to adapt quickly and efficiently, this change can actually improve our competitiveness by offering a more secure and transparent customer user experience. More satisfied customers who in turn value integrity highly can improve our reputation and strengthen our customer relationships." (R2, #30, own translation).

R3 and R4 expressed uncertainty about specific strategies needed to adapt as they both utilize the e-commerce platform Shopify for their websites, leaving the strategic thinking to the platform (R3, #36; R4, #36).

"[...] I don't feel like it's that big of an impact, for us at least. Among other things, maybe Shopify, as we are under the Shopify website, I think they will solve most of it for us already." (R3, #36, own translation).

"[...] I think that as for the company, we will only adapt to what is offered." (R4, #36, own translation).

Although R1 did not extensively use third-party cookies in their current business activities, the importance of third-party cookies for targeting, retargeting, and finding potential advertisers was still acknowledged, expressing future potential concerns about the concentration of power among the major tech giants like Google becoming increasingly dominant after the phase out (R1, #14).

"[...] yet Meta, Instagram, and Google are very much involved and possess a lot of knowledge, and with this knowledge they can group up every segment, for example everyone who likes cars, and so on. Afterwards, they can share this data anonymously on servers but the only way to access this data is by going through Google or Meta, and they already have a big lead on the market, 40% of everything already so that gives them even more of a lead. You give more power to foreign companies, [...] (R1, #14, own translation).

This sentiment was shared by R3 and R4, with R4 emphasizing on Google Chrome's dominant market share (R4, #52).

"[...] And that this information, it mostly benefits… I think it mostly benefits those who are higher up, rather than us who are entrepreneurs. Because, if we as entrepreneurs receive them, someone else is using our data for something else. And it's a lot like that too." (R3 #82, own translation).

Despite the uncertainties, R2, R3 and R4 recognize both challenges and opportunities with the impending change – with R2 viewing it as an opportunity to enhance processes and industry standards (R2, #34), and R3 appreciating change by recognizing its necessity regarding privacy concerns (R3, #36). R4 identified both positive and negative aspects, like balancing consumer privacy concerns with the challenges of personalized marketing and targeting (R4, #52).

"We see this as an opportunity to be able to improve our processes but also our offers towards the customer even more. Changes, especially bigger ones like this one definitely result in challenges, but we are very positive about the positive outcomes that it will bring. It could contribute to a more responsible and user-centered industry. After all, we are all end users ourselves and we know that our own data must also be handled correctly." (R2, #34, own translation).

"But it becomes, well, more that the consumers want that security too, that they haven't collected too much data about them. I think it's both an advantage and a disadvantage. I mean, the advantage… It's more of an advantage for the consumers, that you don't have any information about them. But at the same time, it's a disadvantage that you don't know anything about them, you know. Then you can't really... How should I put it? Direct your products to the consumers. It might become a bit... strange, but I think that over time, it will become clearer if you target correctly." (R4, #52, own translation).

Considering that the deprecation of third-party cookies will have some sort of impact on most, if not all businesses, R3 highlights the importance of having various additional ways to advertise as everyone will be equally affected, as well as the fact that advertising will most likely become more difficult in terms of efficiency with the loss of personal data (R3, #74).

4.2 Challenges and Considerations

4.2.1 More power to the major organizations

As previously mentioned, R1 highlighted a crucial concern: the deprecation of third-party cookies resulting in more benefits to already dominant organizations like Google, who can still track users due to their vast data reservoirs (R1, #14). This shift would result in difficulties for the smaller businesses' ability to compete, as R3 states that this change is more beneficial and advantageous to those who are in higher positions of power (R3, #82). This suggests that while they, as business owners, collect and manage data for their own purposes, there is a concern that this data might be utilized by others for different purposes, possibly without their consent or knowledge. Furthermore, R1 suggests that this change could lead to the smaller businesses becoming more dependent on the bigger players like Google and Meta (R1, #20).

> *"I think that for the advertisers, you will become a little more dependent on Google and Facebook (Meta), but generally I don't think it will affect that much. They will still be able to reach out to the companies anyway because the bigger companies already have so much information. So for the advertisers, it will most likely not have a major impact except for maybe some loss in revenue."* (R1, #20, own translation).

4.2.2 Insufficient resources

R4 expresses their desire for the business to allocate more resources towards the impending change, although both time and financial constraints are highlighted as challenges faced by small businesses in the sense of allocating resources for both strategies and marketing (R4, #86). As a result, other more meaningful tasks are being prioritized, with the solution being to follow the mass and adapt as emerging strategies are getting proven. Likewise, R3 emphasizes on the dynamic aspect of the IT industry, highlighting the importance to continuously analyze the environment and adapt (R3, #40), with the implication to allocate the resources effectively given their circumstances.

4.2.3 Dependence on third-party cookies

R2 discussed how third-party cookies have been instrumental in analyzing user behavior on their website and enhancing customer targeting through platforms like Google Analytics and Facebook Pixel. However, with the impending deprecation of these cookies, there is an apparent concern about maintaining the effectiveness of their marketing campaigns and the overall user experience on their digital platforms. R2 expressed a substantial dependence on third-party cookies for optimizing advertisements, emphasizing that the absence could negatively impact their marketing outcomes (R2, #16), aligning with what R4 stated on the use of marketing strategies that are more dependent on third-party data and its impact for other businesses (R4, #72).

For R3, third-party cookies are utilized on their websites through the e-commerce platform Shopify, with the data used for increasing their presence on the market as well as retargeting customers back to their website with the help of Google Analytics (R3, #10).
The impact of the event is expected to be low for their business as the online store is created

and managed with the help of Shopify, meaning that Shopify will probably have solved most related issues in time when the phase out is finished (R3, #36).

R4 mentioned minimal reliance on third-party cookies for their business. Although also using Shopify and Google Analytics, these services were only used for basic data analytics rather than extensive tracking (R4, #22). Thus, the impact was also expected to be low, although R4 expressed futuristic concerns resulting in a bigger impact when the company plans to expand in the future (R4, #40). As R3 mentioned, in that Shopify will hopefully in the meantime have solved most related issues when the phase out is finished, R4 shared the same sentiment in being hopeful for when the company plans to expand internationally (R4, #74).

> *"If they want to push outwards, i.e. outside of Sweden, for example. That's when more marketing and such will be needed. At least for cookies and such, anyway. Hopefully, by then… good solutions will have been developed?"* (R4, #74, own translation).

4.3 Future Strategies

4.3.1 First-Party Data

R2 highlighted their company's proactive shift towards leveraging first-party data to reduce potential disruptions in data-driven marketing strategies (R2, #18). Recognizing the importance of maintaining robust data insights for effective customer engagement, they are investing in the development of their own customer data management platform. This move is aimed at utilizing first-party cookies, which are crucial for gathering direct user interactions on their website without relying on third-party sources. By enhancing their capability to collect and analyze first-party data, they aim to maintain a high level of personalization and targeting accuracy in their marketing efforts (R2, #18). This strategic pivot not only addresses the immediate need to adapt to changing privacy norms but also aligns with broader industry trends prioritizing data privacy and user consent.

> *"We are definitely planning to increase our use of first-party cookies, as well as developing our own platform for customer data management. Various investments in technology, like for example to be able to track and analyze data collected directly from our users is included in this. We are also exploring other options and marketing methods, such as contextual advertising and the use of AI to predict customer behavior."* (R2, #18, own translation).

4.3.2 Contextual Advertising

R2 discusses their exploration into contextual advertising as a viable alternative for maintaining effective advertising without compromising user privacy (R2, #18). They acknowledge the potential of AI to revolutionize contextual advertising by analyzing the content of web pages and aligning advertisements with the context, rather than relying on user tracking across sites. This approach leverages technology to predict user behavior and preferences based on the content they are currently viewing, thus offering a privacy reliant method of delivering relevant ads. The respondent's interest in contextual advertising reflects a strategic shift towards methods that respect user privacy while still enabling targeted

marketing, aligning with emerging regulations and consumer expectations regarding data privacy.

4.3.3 Artificial Intelligence

The interview with R2 highlighted their interest in exploring AI to reduce the loss of third-party cookie functionality. They viewed AI as a promising tool that could potentially replicate and even enhance some of the capabilities previously facilitated by third-party cookies (R2, #28). Specifically, they are interested in AI's ability to predict customer behaviors and preferences based on available first-party data. They further explain that this approach could allow for more refined segmentation and targeting, ultimately leading to more effective marketing strategies and maintaining competitive advantage.

"[...] AI definitely has the potential to become as powerful a tool as third-party cookies are today for behavioral analysis and customer segmentation. It is a promising addition and can be seen as an alternative in many different use cases. Complete replacement of third-party cookies may be possible in the future, but right now I see it as a difficult task. In the meantime, AI offers a promising complement and can be seen as an alternative in many different use cases." (R2, #28, own translation).

4.3.4 Zero-Party Data

According to the insights from R3, their current use of customer data primarily revolves around receiving direct interactions through voluntary information disclosures by the customers themselves (R3, #26). This approach mirrors the principles of how ZPD works, where customers actively choose to share data for a better tailored experience.

This shift towards ZPD represents a proactive adaptation to the ongoing depreciation of third-party cookies, a change that R3 acknowledges, albeit with limited prior knowledge. The company's strategy is to leverage direct customer interactions, such as inquiries about product preferences and feedback on services, to build a database of ZPD. This not only matches with emerging privacy regulations, but also the company's position to maintain its competitive edge through enhanced customer engagement and satisfaction. R3 continues on and underlines that there is a critical transition within the retail sector, highlighting a shift from reliance on passive data collection to a more engaged, transparent, and ethically grounded approach. This aligns with broader industry trends within the market towards greater transparency and consumer control over personal data.

"[...] It's a bit of what we use now among other things. sending out newsletters to customers about our website. When they enter the website today, It is possible for them to voluntarily enter their email to become a member on our website." (R3, #26, own translation).

4.3.5 Advertising in Social Media

R1 discussed the recent success of advertising in social media, mentioning the overwhelming presence of social media in the digital market today (R1, #16). R1 describes this strategy as highly profitable when compared to other advertising strategies. Additionally, according to

R1, the third-party data usage for social media advertising has been reduced as of recently, prompting further success for this strategy. As users must sign up to a social media platform, social media will remain largely unaffected by the changes in Google's cookie policies (R1, #16, own translation).

This success is recurrent for R3 and R4's statements about mainly utilizing social media for their advertising. Having adapted to the recent trends of advertising, such as short-form content, they started using YouTube, Instagram and TikTok as platforms for exposure (R3, #16; R4, #10), strengthening the statements of R1.

"I think that the type of digital advertising that worked best recently is the advertising through social media and those in search functions. They have succeeded in selling when they put ads in Facebook, unlike advertisers in daily newspapers. Currently, the use of third-party cookies has decreased in proportion, so it does not have as large a share in that industry either. [...] social media has taken over so much that they will still be able to track people because Facebook still knows who you are, just like Google, because everyone is in a logged-in state." (R1, #16, own translation).

5 Discussion

5.1 Analysis of the Businesses' Perceptions

As the end of third-party cookies is closing in, there was no surprise regarding awareness of the currently ongoing deprecation of third-party cookies among the respondents, although in varying levels of awareness. While some participants demonstrated a high level of technical knowledge and recognized the significance of the impending change by already having started to prepare and take action, others had to rely more on the external platforms that help manage their business for strategic guidance, given their circumstances.

This reflects the discussions in the literature about the impact on smaller businesses, as the new solutions and strategies are both costly and require technical expertise. As a conclusion, small businesses rely more heavily on the infrastructure and data provided by the Walled Gardens, which is in line with the companies of R3 and R4 both relying on an external e-commerce platform for their business. As such, those with sufficient resources and a deeper understanding of the technical aspects are likely to have a head start after the removal of third-party cookies and potentially gaining competitive advantages in the process.

A recurring theme among the respondents was the concern about the major tech companies becoming more influential and dominant past the deprecation of third-party cookies, raising concerns about competition and data ownership, as well as the power dynamics between companies like Google and Meta versus smaller businesses. This theme aligns well with the previous research conducted on the subject, corresponding to Engdahl & Eidmann (2023), Çınar & Ateş (2022), Elmér & Nilsson (2022) as well as Mendys & Jensen (2021) statements regarding the potential oligopolistic tendencies and the emergence of potential new industry standards like Google's Privacy Sandbox or the Walled Gardens.

Such concerns underscore the complexity in this problem, as granting more power to the big tech companies could potentially lead to greater innovation and efficiency as they possess the resources and expertise to possibly develop groundbreaking technologies and services that would benefit the society as a whole. However, when a small number of companies control a large portion of the market, it may suppress competition and innovation, thus limiting the consumer choice by holding excessive control over the market and harming the smaller businesses. Moreover, as pointed out by El Hana et al. (2023), this raises the question regarding accountability as these major tech companies have to decide for a whole industry the right trade-off between privacy and efficiency. For example, regarding Google's initiative with The Privacy Sandbox, while stakeholders are invited to contribute to the project, there is an urge to be more involved in the process with a focus on transparency.

These concerns highlight the urgency of transparency and proper regulations related to privacy, data protection and digital rights, as these companies maintain tremendous amounts of personal data from users. This growing urgency for policymakers to address these issues is also highlighted in the study conducted by Çınar & Ateş (2022), advocating for a modern legal framework to ensure the protection of personal data.

The perspectives of R2, R3, and R4 provided valuable insights into the businesses responses to the impending removal of third-party cookies. Despite the uncertainties surrounding this change, they demonstrated a recognition of both challenges and opportunities that lie ahead. R2 viewed the impending change as an opportunity to enhance processes and industry standards, reflecting a proactive approach to adapting to the dynamic industry. By being open to change and utilizing emerging technologies, businesses like R2's have the opportunity to stay ahead of the curve and maintain a competitive edge in the marketplace.

Similarly, R3 appreciates the necessity of change regarding privacy concerns by recognizing the importance of protecting consumer privacy. There is an emphasis on the broader societal implications, aligning with the emerging trends in data privacy regulation and consumer expectations in regard to prioritizing transparency in their data practices.

Considering R2's approach, while providing great opportunities, it could also involve potential issues like becoming overly reliant on the emerging technologies without fully understanding their limitations or potential drawbacks, or introduce security vulnerabilities or privacy risks if not implemented properly. As such, it is essential to carefully consider and address the risks to ensure a successful adaptation.

R4 identified both positive and negative aspects of the impending change, acknowledging the complexity that it introduces onto the area in relation to both consumer privacy concerns and the challenges of personalized marketing and targeting. Businesses will therefore need to adapt to the new environment while still meeting the demands of a competitive market, which means they will try their best to retain the trust with consumers while continuing to deliver targeted and relevant advertising content.

Most businesses will likely be affected by the deprecation of third-party cookies in some way, but the impact will likely vary across different businesses, depending on their reliance on third-party data for marketing and analytics purposes. R3 highlights the importance of having various additional ways to advertise in light of this upcoming change, bringing attention to the need for businesses to diversify their advertising strategies and adapt to the emerging trends. Given the situation with the loss of personal data from third-party cookies, advertising may become more challenging in terms of efficiency and targeting. However, by exploring alternative strategies and advertising channels, businesses could mitigate the impact of this change.

5.2 Adopter Categorization on the Basis of Innovativeness

5.2.1 Early Adopters

R2's emphasis on adapting to new technologies resonates well with the concept of early adopters outlined in the Diffusion of Innovations Theory, where organizations seek to adopt and implement new strategies to address emerging challenges. Rogers (2003) describes early adopters as individuals who are still eager to try out new innovations or technologies, but tend to be more cautious when adapting new strategies. In the context of R2, this translates to their proactiveness in exploring alternative marketing strategies. By leveraging first-party data, businesses are able to get a deeper understanding of their customer preferences and behaviors

without the reliance on third-party cookies. Contextual advertising emerged as another alternative, allowing for personalized ad placements based on the content their users engage with, thus respecting their privacy while still delivering relevant messages.
The incorporation of AI within the world of digital marketing offers a transformative shift from traditional data collection methods towards a more dynamic and predictive analytics approach. R2 stated that they are exploring options regarding AI-driven models that can intelligently analyze customer interactions on their platforms and enable real-time adjustments to marketing campaigns, better aligning with customer expectations and preferences. If possible, this capability would not only increase the customer experience through personalized interactions but also ensures compliance with stringent data privacy laws.

5.2.1 Late Majority

Rogers (2003) mentions that 'Late Majority' represents a group of adopters who are more skeptical and cautious about new technologies, adopting only after these have been proven to work and accepted by a significant portion of their social system. In our interviews, R3 and R4 exemplified this cautious approach in the context of the deprecation of third-party cookies. Both R3 and R4 expressed a strategy of 'waiting and watching'—they prefer to observe how solutions to replace third-party cookies first will stabilize within the market, learning from the trials and errors of early adopters before they themselves commit to any major strategic shifts. This reflects a strategic approach where late majority members reduce their risks by relying on the lessons learned by their competitors, ensuring that any transition is well-established and thereby reducing the chances of encountering significant operational disruptions."

R1 expressed a cautious but inevitable acceptance of the shift toward first-party data and AI-enhanced tools, characteristic of the late majority's skepticism and slower pace of adoption. R1 explained the challenges their organization faces in building internal capabilities to handle these new technologies, mirroring the widespread attitude among this group that, although change is essential, it must be approached with thorough planning and substantial proof of effectiveness. This perspective underlines a key aspect of the late majority: their decision to adopt new technologies is often driven by a combination of increasing external pressures and the progressive stabilization of new methods in the market.

5.3 Analysis using the Principles of the Diffusion of Innovations Theory

The respondents' attitudes towards the alternative strategies and emerging technologies reflected the different stages of the innovation adoption process outlined in the Diffusion of Innovations Theory. While some were early adopters – open-minded and interested in exploring alternative solutions, other respondents were more cautious by preferring to wait and observe before making any significant changes. Using the theory's principles as a basis, the diffusion process of the alternative strategies within these companies can be analyzed with the help of the five qualities outlined by Rogers (2003):

1. *Relative advantage*

   a. The measurement of an innovation's perceived superiority over the product it replaces, based on characteristics like economical worth, social prestige, convenience and satisfaction.

2. *Compatibility*
   a. Describes how well an innovation aligns with the existing values, experiences and needs of potential adopters.

3. *Complexity*
   a. Relates to the degree in which an innovation is perceived as challenging to use and comprehend.

4. *Trialability*
   a. Relates to the degree to which an innovation can be tested in a restricted setting before being fully adopted.

5. *Observability*
   a. Refers to the extent to which an innovation's effects are visible to others.

As such, the following analysis of the different strategies and alternatives discussed with the respondents is meant to examine the reasons why certain strategies are adopted over others, exploring the thoughts behind their adoption or hesitation towards adopting specific strategies.

5.3.1 First-Party Data

Regarding the relative advantage, this strategy of utilizing more first-party data to compensate for the data lost from third-party cookies could be seen as more cost-effective for businesses as this data is retrieved directly from their own website visitors. As a result, businesses could potentially reduce expenses associated with purchasing data from third-party sources. Furthermore, as first-party data is more effective at personalization as the data is based on direct interactions, it could be perceived as more convenient and satisfied to use, while increasing its social standing considering its transparency and compliance towards user privacy regulations. However, in terms of richness and accuracy of the data, it could prove to be a bigger challenge for smaller businesses compared to larger organizations, as there may be limitations on their customer interactions and website traffic.

Regarding compatibility for first-party data, the method is most likely already in use as it leverages data already generated through interactions with customers on the company's own digital platforms, resulting in seamless integration.

For complexity, as businesses already most likely collect and utilize first-party data, with the collection method being simple and straightforward through the company's own digital platforms, this method stands out regarding its simplicity and accessibility in terms of the level of technical expertise required.

Regarding trialability, businesses can collect and analyze their own data with relatively low cost and risk, which allows them to experiment with different approaches and assess their effectiveness before making larger commitments. As mentioned by R2 in their strategy for first-party data, it is also possible to gradually increase the use of first-party data over time, implicating the low barrier of entry for this data collection method.

For observability, first-party data collection is easy to observe and evaluate through key performance indicators such as through website traffic and customer engagement metrics, providing an easy way to analyze its impact on business performance. Moreover, it is often transparent and well-documented, allowing stakeholders to understand how data is collected, managed, and used within the organization.

Throughout the analysis using the five qualities outlined above, we gain a deeper understanding of R2's acceptance and commitment towards utilizing more first-party data as well as R4 mainly using first-party data for their business, demonstrating how the adoption aligns with key principles outlined in the Diffusion of Innovations Theory. As such, the use of first-party data proves its worthiness as a strategy past the deprecation of third-party cookies.

5.3.2 Contextual Advertising and the use of AI

In the context of contextual advertising, its relative advantage can be measured in the sense that the method allows businesses to target their advertisements more precisely based on the content of a web page. Compared to traditional forms of advertising that may rely on broad demographic targeting or extensive market research, contextual advertising could be more cost-effective as it focuses on specific keywords or content categories, enabling businesses to optimize their expenses by reaching audiences who already have an interest in their products. By presenting advertisements that are relevant to the content they are consuming, it could lead to higher engagement rates and a more positive perception of the advertised products or services, thus increasing their social prestige and satisfaction rate of the ads.
However, it may not always accurately reflect the interests or intentions of the individual users, which could reduce the relative advantage.
Moreover, as stated by Häglund & Björklund (2022) as well as El Hana et al. (2023), artificial intelligence (AI) has been incorporated into the targeting process of contextual advertising with the help of natural language processing (NLP) and image recognition to predict a customer's behavior given the content of a web page, thus improving the reliability, efficiency and speed making it easier to precisely pinpoint the target audience.

For compatibility, as mentioned by Zhang & Kartona (2012), this strategy is already widely used by communities and affiliated advertising networks as their preferred advertising strategy. As such, it aligns well with modern digital marketing strategies. Contextual advertising also aligns with regulatory standards related to data privacy and consumer consent, as the strategy focuses on contextual data rather than personal data, further proving its compatibility in the digital era of today. However, worth noting is that as contextual advertising relies on algorithms to analyze the content, there may be instances where it misinterprets the context, leading to ads potentially being displayed inappropriately.

Regarding complexity, contextual advertising operates on a relatively simple concept: targeting advertisements based on the context of the content being consumed. As such, this straightforward approach would be easy for businesses to grasp and implement. However, as it involves algorithms based on for example natural language processing and image recognition, businesses may encounter challenges in understanding and managing these algorithms.

For trialability in regard to contextual advertising, businesses can experiment with targeting different target audiences or content categories to determine which segments yield the best results in accordance with their goals. However, businesses may need to invest time and

resources in understanding how to set up and optimize contextual advertising campaigns effectively, which could be a drawback. Especially for small businesses with limited resources.

Regarding observability, contextual advertisements are typically displayed publicly on websites and digital platforms, where they are visible to a wide audience. Moreover, the results of the campaigns can be tracked through performance metrics such as clicks, conversions, and return on investment (ROI) through analytics. However, businesses may not always have full visibility into the decision-making behind the targeting or the criteria used by algorithms to determine ad placements, resulting in a lack of transparency.

Based on the analysis of the five qualities, contextual advertising could be concluded as a viable strategy past the phase-out of third-party cookies despite its drawbacks, as it still offers numerous advantages in addition to its compliance to the regulatory standards.

5.3.3 Zero-Party Data

Similar to first-party data, zero-party data is acquired by directly asking consumers for their preferences and intentions, which provides more accurate and relevant data that can be used for personalization. Additionally, it provides convenience for both businesses and consumers as it is less intrusive, meaning it complies to the privacy regulations while also eliminating the need to rely on third-party cookies. As such, it can be perceived as a more superior data collection method, strengthening its relative advantage.

However, as it relies on the data of the consumers voluntarily providing information, there may be instances where consumers provide inaccurate or incomplete information leading to a reduced effectiveness in personalization. Moreover, the effectiveness depends on consumer participation, which may reduce the relative advantage of this strategy.

Regarding compatibility, consumers are becoming more and more concerned about how their data is collected and used. As consumers are freely able to decide what data to share with the businesses, it aligns well with the increasing demand for data transparency. For businesses that adopt this strategy, it demonstrates their compatibility with the regulatory standards and respecting user privacy. However, worth noting is that consumers may still have concerns about sharing information with businesses, even if done voluntarily.

For complexity, zero-party data involves businesses directly asking consumers for their preferences and intentions rather than relying on complex algorithms, simplifying the process for both businesses and consumers to understand the purpose and benefits of zero-party data. There is also a high level of transparency as users are given more control over their data, thus reducing the perceived complexity.

Regarding trialability, businesses could conduct surveys to collect zero-party data on a particular product line or demographic group, enabling businesses to experiment with different methods and parameters.

For observability, the effects of zero-party data can be directly observed by consumers after sharing their data when personalized recommendations, targeted offers, or customized content that aligns with their interests arrive at the web page. However, for businesses, the results may

not be immediately apparent, as they may need to wait for sufficient data collection and analysis to demonstrate the effectiveness of the data.

Thus, using the analysis as a basis, the use of zero-party data in a post-cookie era could be seen as a powerful tool for businesses seeking effective advertising solutions, besides also complying with the privacy regulations. As such, it aligns well with Polonioli's (2022) statements in her study on zero-party data.

Still, the biggest drawback of zero-party data is its reliance on consumer participation in accumulating the data, as it is only retrieved by the use of tools like surveys, quizzes, and forms. Due to its dependence, smaller businesses might struggle with accumulating enough data, thus highlighting the need for other data collection methods. Polonioli (2022) argued for its intentions to use it as a complement rather than a replacement, which is in line with the results of the analysis.

5.3.4 Advertising in Social Media

In terms of relative advantage, advertising in social media could be considered cost-effective as businesses are able to reach a large audience with a relatively small investment, especially if they utilize targeted advertising options offered by the social media platforms. It is also convenient for both businesses and consumers, as advertising campaigns can easily be created and managed through the platforms provided by social media, while consumers can engage with ads directly from their social media feeds without having to visit a separate website or store. One drawback, however, is that these platforms are often crowded with advertisements, making it challenging for businesses to stand out and communicate effectively.

For compatibility, businesses are able to leverage data and insights about the consumer's past behavior and preferences, enabling them to build upon these experiences in their advertising campaigns. As a result, the advertisements would be highly targeted, thus increasing the compatibility with the specific needs and pain points of their target audience. However, as Jacobson (2020) stated, some consumers may be uncomfortable with how businesses are using their data, which could impact them negatively.

Regarding the complexity, social media advertising today often rely on concise and visually engaging content formats, such as short videos as can be seen on the various platforms like TikTok, Instagram or YouTube. For businesses, this allows them to convey their message in a straightforward and easily digestible manner by presenting information in a simplified format, thus reducing the consumer's perceived complexity. However, this also limits the businesses in regard to, for example, explaining complex features or benefits due to space or time constraints.

For trialability, businesses with advertisements in social media are able to leverage user-generated content and customer reviews with the help of influencers to showcase real-life experiences with their product or service. As an existing customer, the product's value can be observed, making them more inclined to experiment with the product themselves. Although, the experience could be limited as it may not fully replicate the experience of physically interacting with a product or service.

As previously mentioned under trialability on user-generated content, consumers are able to observe real life testimonials from satisfied customers. Businesses are able to demonstrate the

results and positive outcomes of adopting the innovation, efficiently creating visual content that is easily observable. However, as stated by Dwivedi et al. (2021), it could backfire as negative experiences about a product can very easily escalate on social media, highlighting the importance of consumer trust.

Given the analysis based on the five qualities for this strategy, it can be interpreted as a valuable strategy to consider in a post-cookie era, reinforced by the statements of R1 describing the strategy as highly profitable when compared to other advertising strategies, as well as the success that was observed based on R3 and R4's testimonies for their businesses.

5.4 Analysis using the Technology Acceptance Model (TAM)

5.4.1 Perceived Usefulness

The variance in perceived usefulness of the respondents, underlines the TAM's statement that user acceptance is largely influenced by the benefits that are anticipated from the new technology. As mentioned by some of the respondents, retailers who perceive clear advantages in performance and compliance are more likely to implement these strategies and integrate them into their operational workflows. However, the analysis also reveals that there is a critical dependency on the sector specific factors. These include things such as the scale of the business and what the existing technological level and maturity is, which directly can significantly influence the perceptions and outcomes.

Retailers who identify strong alignment between the proposed strategies and their operational goals tend to view these types of changes as more favorably, highlighting and advantages such as enhanced data privacy, improved customer targeting accuracy, and compliance with evolving data protection laws. However, skepticism remains among some retailers. Primarily due to concerns over the complexities and resource heavy requirements associated when it comes to adapting new technologies. These insights explain the importance of perceived usefulness as a crucial indicator of technology adoption. This suggests that the success of such strategies are heavily reliant on their ability to meet the specific, practical needs of businesses.

Therefore, for these technologies to be recognized more broadly, they must not only offer clear improvements over existing systems. But also provide enough support and training to make sure that there's a seamless integration into current business practices, thereby upgrading their perceived utility and acceptance among retailers.

5.4.2 Perceived Ease of Use

As Davis et al. (1989) mentioned, with TAM that systems which are easy to use and understand are more likely to be adopted into an organization. This is supported by the statements made by our respondents' answers. Pointing out how crucial it is to be able to integrate new technologies into their existing operations. First-party cookies are showing great potential and have been well-received not only because they align with privacy laws but also because it is more straightforward to implement. When systems are simple to use, they require less training, which lowers support costs and accelerates the overall process. This is especially vital in the fast-paced retail sector, where there is little room for error.

6 Conclusions

Given the circumstances, this thesis was written during an ongoing transition in the AdTech ecosystem towards a post-third-party cookie era. The use of third-party cookies will soon be obsolete, leaving the future unclear. As such, the purpose of our thesis was to investigate how Swedish retailers perceived the impending removal of third-party cookies, while exploring their concerns and analyzing their potential strategies amidst this change.

The Diffusion of Innovations Theory was applied throughout the thesis to aid in the understanding of the different rates of adoptions, using the five qualities outlined in the model to help analyze the new and alternative technologies and strategies across the Swedish retail industry. Additionally, the theory served to also analyze the respondents behaviors, as well as their reasons behind their acceptance or resistance for the various strategies, further strengthening the scientific basis for our thesis. The Technology Acceptance Model (TAM) was also essential for us in analyzing the retailers' acceptance of new technologies replacing third-party cookies. It served to explain the perceived usefulness and ease of use for the alternative strategies, which we recognized to be critical factors influencing their adoption rate.

Our qualitative study indicated that, while some retailers expressed substantial concern about the phase out resulting in potential power dynamics between the major tech companies and small businesses, others saw this as an opportunity to innovate and enhance processes and industry standards. The concerns primarily revolved around the smaller businesses having limited resources to counteract against the loss of third-party cookies. As a result, they have to rely more heavily on the infrastructure and data provided by the industrial leading tech companies, such as the Privacy Sandbox initiative. The problem that arises with being too dependent on major tech companies is the company's loss of control over customer data. This would result in retailers not being able to create effective personalized advertising and retargeting, since less customer data can be collected once third-party cookies are completely phased out. However, there was a notable shift towards exploring and implementing alternative data collection strategies that were more aligned and complied with the privacy regulations. Strategies and potential replacements of third-party cookies such as *first-party data*, *zero-party data*, *advertising in social media*. As well as the adoption of new technologies like the incorporation of *AI in contextual advertising* to analyze consumer behavior throughout the web. One thing was clear and that was, even though there are a lot of potentially useful strategies, none of them was actually seen as a direct replacement because they would not be able to provide the same level of analytical insight as third-party cookies.

Some retailers had already started working proactively and began preparing about this market shift as soon as they found out about the regulations made by Safari, Firefox and now Google. Whereas some, like respondents 3 and 4, are still making the choice to wait for more information or plan to handle it after third-party cookies are removed completely because of its unknown impact on the business.

In conclusion, the deprecation of third-party cookies represented both a challenge and an opportunity for Swedish retailers and personalized marketing as it compels them to innovate and adapt to the changing environment where respecting consumer privacy could become a competitive advantage if it is taken into consideration. Businesses will have to stay agile and proactive, continuously evolving their strategies to meet both market demands and regulatory

requirements. As the retail industry prepares for a post-cookie era, this shift could result in more sustainable and ethically responsible marketing practices that could redefine the digital advertising ecosystem.

6.1 Limitations

While the study provides valuable insights into the perceptions and strategies of Swedish retailers and their concerns, it has to be noted that the study was limited to the exploration of retailers located only in Sweden, which may limit the applicability of findings in this thesis, considering the different market dynamics or data privacy regulations of other countries or regions.

One of the biggest flaws in our study is the limited number of participants for our empirical study. As such, it cannot be concluded as a representative for all Swedish retailers. Moreover, the participants may have been reluctant in sharing their business strategies publicly, which could lead to the participants not answering truthfully for every question in the interviews. There is also the possibility of the participants tailoring their responses to better align with the researchers perceived expectations, in addition to us researchers misinterpreting the intentions and meanings they were trying to convey during the interviews.

Given the ongoing nature of the subject, there was a limit in the availability of previous research regarding the phenomenon. To address the gap in existing research, the literature review incorporated student theses. While they may not encapsulate the comprehensive industry perspectives or academic rigor present in peer-reviewed literature, they still provided us with a starting point to build up our knowledge on for understanding the comprehensive domain of the phase out regarding third-party cookies.

6.2 Future Research

Lastly, the insights from this study contribute to the understanding of the impending removal of third-party cookies, particularly focusing on the situation for Swedish retailers. Given the impending change, it would be interesting to follow up on the study in analyzing the actual impact of the phase out of third-party cookies in a post-cookie era, which could provide new perspectives and insights into strategies of efficiency and how they evolved over time.

Additionally, as the thesis mainly analyzed the alternative strategies that the participants mentioned, it could be of interest to further investigate the feasibility and effectiveness of other emerging technologies or data collection strategies besides the strategies highlighted in this thesis.

One thing to take into consideration is that the findings in this thesis do not provide a universal picture that is applicable for all settings. Thus, there is a demand for further research into the subject of third-party cookie deprecation. More specifically, it would be important to conduct similar studies in different geographical locations, particularly in regions not governed by GDPR, to gain a more comprehensive understanding of the factors that affect successful adaptation to this significant change in digital marketing practices. This approach

would complement the global perspective on privacy and data management strategies in a post-third-party cookie era.

7 Usage of AI-based tools and its contribution

Tools used: ChatGPT 3.5 & Whisper

In the development of our thesis, we incorporated AI-based tools, namely ChatGPT 3.5 and Whisper, to assist in various stages of our work while ensuring that the majority of the thesis remained our independent effort. ChatGPT 3.5 was instrumental in refining the language quality and formality of the background, literature review, and discussion sections. Furthermore, ChatGPT 3.5 was also used to help us construct our interview questions, ensuring they were comprehensive and relevant to our research objectives. This tool not only guided us in identifying potential research topics through input of relevant keywords, but also significantly enhanced the grammatical presentation of our text, thereby saving us valuable time and effort.

Whisper, on the other hand, was used primarily for the transcription of interviews and audio content, which contributed to accurate data collection and analysis. Whisper has also helped us by minimizing the risk for errors or mistakes in the transcript, which would have probably happened if it was manually constructed. We then used ChatGPT 3.5 again to help us categorize the answers received to the most suited question. This allowed us to maximize the information from the interviews to their fullest potential.

In conclusion, our integration of AI tools like ChatGPT 3.5 and Whisper has substantially enhanced our thesis process. These technologies improved workflow efficiency and research quality, helping with tasks ranging from language refinement to accurate transcription. Our use of AI allowed us to focus on deep analytical work, ensuring thoroughness in our research. This thesis demonstrates the effective synergy between human effort and artificial intelligence, highlighting the potential for AI to support more refined and comprehensive academic research.

8 References

Adeoye‐Olatunde, O. A., & Olenik, N. L. (2021). Research and scholarly methods: Semi‐structured interviews, *Journal of the American College of Clinical Pharmacy*, vol. 4, no. 10, pp. 1358-1367, https://doi.org/10.1002/jac5.1441 [Accessed 24 April 2024]

Hercigonja, A. (2024). Server-Side Tracking: What It Is and Why You Need It, https://qodeinteractive.com/magazine/server-side-tracking-and-wordpress/#what-is-server-side-tracking [Accessed 25 Apr. 2024]

Aziz, A., & Telang, R. (2016). What is a digital cookie worth?, https://dx.doi.org/10.2139/ssrn.2757325 [Accessed 5 April 2024]

Bell, E., Bryman, A., & Harley, B. (2019). Business Research Methods, 5th edn, Oxford: Oxford University Press, [Accessed: 24 April 2024]

Bryman, A. (2018). Samhällsvetenskapliga metoder, 3rd edn, Stockholm: Liber. [Accessed 21 April 2024]

Bryman, A., & Bell, E. (2017). Business Research Methods, 3rd edn, Oxford: Oxford University Press. [Accessed: 22 April 2024]

Bushati, G., Rasmusen, S., Kurteva, A., Vats, A., Nako, P. and Fensel, A. (2023). What is in your cookie box? Explaining ingredients of web cookies with knowledge graphs. *Semantic Web*, [online] pp. 1–17, https://doi.org/10.3233/sw-233435 [Accessed: 8 April 2024]

Chavez, A. (2022). Expanding testing for the Privacy Sandbox for the Web, Chrome, web blog post, https://blog.google/products/chrome/update-testing-privacy-sandbox-web/ [Accessed 11 April 2024]

Çınar, N., & Ateş, S. (2022). Data Privacy in Digital Advertising: Towards a Post-Third-Party Cookie Era. In Privacy, London: Routledge. https://doi.org/10.4324/9781003173335-3 [Accessed 5 April 2024]

Cohen, M. (2022). How Marketers Can Prepare for the Removal of Third-Party Cookies, https://www.entrepreneur.com/growing-a-business/how-marketers-can-prepare-for-the-removal-of-third-party/424104 [Accessed: 9 April 2024]

David, A., Jeganathan, G. S., & MD Sikandar Azam, S. A. (2023). Internet Users Top Concerns Ensuring Data Privacy, Security, and Protection. *10th International Conference on Multidisciplinary Research and Modern Education*, pp. 1-16, https://ssrn.com/abstract=4511314 [Accessed 27 March 2024]

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models, *Management Science*, vol. 35, no. 8, pp. 982-1003, https://doi.org/10.1287/mnsc.35.8.982 [Accessed 5 May 2024]

Davis, F. D., & Venkatesh, V. (1996). A critical assessment of potential measurement biases in the technology acceptance model: three experiments, *International Journal of Human-Computer Studies*, vol. 45, no. 1, pp. 19-45, https://doi.org/10.1006/ijhc.1996.0040 [Accessed 5 May 2024]

Degeling, M., Utz, C., Lentzsch, C., Hosseini, H., Schaub, F., & Holz, T. (2019). We value your privacy... now take some cookies: Measuring the GDPR's impact on web privacy. In *Proceedings of the 26th Network and Distributed System Security Symposium (NDSS),* https://doi.org/10.48550/arXiv.1808.05096 [Accessed 7 April 2024]

Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., ... & Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, vol. 59, https://doi.org/10.1016/j.ijinfomgt.2020.102168 [Accessed 6 May 2024]

Economist. (2017). The world's most valuable resource is no longer oil, but data, *The Economist*, 6 May, https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data [Accessed 27 March 2024]

Ekonomihögskolan. (2023). Riktlinjer för behandling av personuppgifter i studentarbeten vid Ekonomihögskolan [pdf], https://www.ehl.lu.se/sites/ehl.lu.se/files/2024-02/riktlinjer-personuppgifter-studentarbeten-2023.pdf [Accessed: 8 May 2024]

El Hana, N., Mercanti-Guérin, M., & Sabri, O. (2023). Cookiepocalypse: What are the most effective strategies for advertisers to reshape the future of display advertising?, *Technological Forecasting and Social Change*, vol. 188, https://doi.org/10.1016/j.techfore.2022.122297 [Accessed 4 April 2024]

Elmér, J., & Nilsson, J. (2022). A FUTURE WITHOUT THIRD-PARTY COOKIES A study of how Swedish small and medium-sized marketing agencies are affected by the loss of third-party cookies and how potential change strategies are communicated, Master's thesis, Department of Applied IT, University of Gothenburg, https://hdl.handle.net/2077/74714 [Accessed 31 March 2024]

Engdahl, K., & Eidmann, E. (2023). Svenska e-handlares acceptans av metoder för datainsamling på Internet, Bachelor's thesis, Department of Informatics, Lund University, https://lup.lub.lu.se/luur/download?func=downloadFile&recordOId=9136882&fileOId=9136883 [Accessed 31 March 2024]

Epsilon. (2020). Research Summary: Preparing for a world without third-party cookies, https://www.epsilon.com/us/insights/resources/research-preparing-for-a-world-without-third-party-cookies [Accessed 29 March 2024]

Fleck, A. (2023). Google's Chrome Has Taken Over the World, https://www.statista.com/chart/30734/browser-market-share-by-region/ [Accessed 29 March 2024]

GDPR.eu. (2024). Cookies, the GDPR, and the ePrivacy Directive, https://gdpr.eu/cookies/ [Accessed 8 April 2024]

Geradin, D., Katsifis, D., & Karanikioti, T. (2020). Google as a de facto privacy regulator: Analyzing Chrome's removal of third-party cookies from an antitrust perspective, https://dx.doi.org/10.2139/ssrn.3738107 [Accessed 10 April 2024]

Google. (2024). Google Privacy Policy, https://policies.google.com/privacy?hl=en-US [Accessed 27 March 2024]

Goswami, S. (2020). The Rising Concern Around Consumer Data And Privacy, Forbes, https://www.forbes.com/sites/forbestechcouncil/2020/12/14/the-rising-concern-around-consumer-data-and-privacy/ [Accessed 27 March 2024]

Guida, S. (2021) Third-party cookies and alternatives: What consequences in terms of consent?, *European Journal of Privacy Law & Technologies*. Available at: https://universitypress.unisob.na.it/ojs/index.php/ejplt/article/view/1389 [Accessed: 7 April 2024]

Häglund, E., & Björklund, J. (2022). AI-Driven Contextual Advertising: A Technology Report and Implication Analysis, https://doi.org/10.48550/arXiv.2205.00911 [Accessed: 16 April 2024]

IEEE Xplore. (n.d.) About IEEE Xplore, https://ieeexplore.ieee.org/Xplorehelp/overview-of-ieee-xplore/about-ieee-xplore [Accessed: 6 May 2024]
Internetstiftelsen. (2021). Svenskarna och internet 2021, https://svenskarnaochinternet.se/app/uploads/2021/09/internetstiftelsen-svenskarna-och-internet-2021.pdf [Accessed 27 March 2024]
IMY. (2024). The purposes and scope of GDPR, Integritetsskyddsmyndigheten, https://www.imy.se/en/organisations/data-protection/this-applies-accordning-to-gdpr/the-purposes-and-scope-of-gdpr/ [Accessed 27 March 2024]
Inoyatillo, T. (2020). Contextual advertising as an essential part of product promotion, *JournalNX*, pp. 2581-4230, https://media.neliti.com/media/publications/336411-contextual-advertising-as-an-essential-p-5cd53c32.pdf [Accessed 24 April 2024]
Jacobsen, D. I. (2002). Vad, Hur Och Varför?: Om Metodval i Företagsekonomi Och Andra Samhällsvetenskapliga Ämnen: Studentlitteratur
Jacobson, J., Gruzd, A., & Hernández-García, Á. (2020). Social media marketing: Who is watching the watchers?, *Journal of retailing and consumer services*, vol. 53, https://doi.org/10.1016/j.jretconser.2019.03.001 [Accessed 6 May 2024]
Janghorban, R., Latifnejad Roudsari, R., & Taghipour, A. (2014). Pilot study in qualitative research: The roles and values, *Journal of Hayat*, vol. 19, no. 4, pp. 1-5, http://hayat.tums.ac.ir/article-1-666-en.html [Accessed 23 April 2024]
Juškaitė, J., & Janušauskaitė, M. A. (2021). Third party cookies: what kind of world is without them?, Vilnius University Open Series, pp. 258-278, https://doi.org/10.15388/TMP.2021.12 [Accessed 29 March 2024]
Kantola, J. (2014). The effectiveness of retargeting in online advertising, Master's thesis, School of Science, Aalto University, https://urn.fi/URN:NBN:fi:aalto-201412163235 [Accessed 14 April 2024]
Komnenic, M. (2022). First-Party vs. Third-Party Cookies: The Differences Explained, https://termly.io/resources/articles/first-party-cookies-vs-third-party-cookies/#what-are-third-party-cookies [Accessed 27 March 2024]
Kotter, J. P. (2011). HBR's 10 must reads on change management (including featured article" Leading Change," by John P. Kotter). Boston: Harvard Business Press
Kvale, S., Brinkmann, S., & Torhell, S. E. (2014). Den kvalitativa forskningsintervjun, 3rd edn, Studentlitteratur [Accessed 29 March 2024]
Lee, H., & Cho, C. H. (2020). Digital advertising: present and future prospects, *International Journal of Advertising*, vol. 39, no. 3, pp.332–341, Available through LUSEM Library, https://doi.org/10.1080/02650487.2019.1642015 [Accessed 4 April 2024]
Lind, R. (2014). Vidga vetandet: en introduktion till samhällsvetenskaplig forskning, Studentlitteratur. [Accessed: 21 April 2024]
Long, L. (2022). Effective first-party data collection in a privacy-first world, *Applied Marketing Analytics*, vol. 7, no. 3, pp. 202-210, https://www-ingentaconnect-com.ludwig.lub.lu.se/content/hsp/ama [Accessed 3 May 2024]
Love, J. (2023). Google to Phase Out Cookies for 1% of Chrome Users in Early 2024, https://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,uid&db=bth&AN=163825310&site=eds-live&scope=site [Accessed 27 March 2024]
Lönberg, N., Ando Mantovaara, L., & Johansson, P. (2022). The Death of the Third-Party Cookie: A qualitative study regarding new strategies and methods for collecting consumer data to obtain effective digital marketing, Bachelor's thesis, Stockholm

Business School (SBS), Stockholm University, https://urn.kb.se/resolve?urn=urn:nbn:se:su:diva-215422 [Accessed 12 April 2024]
Mayer, J. R., & Mitchell, J. C. (2012). Third-party web tracking: Policy and technology. In *2012 IEEE Symposium on Security and Privacy,* pp.413-427, Available through LUSEM Library, https://doi.org/10.1109/SP.2012.47 [Accessed 7 April 2024]
Melicher, W., Sharif, M., Tan, J., Bauer, L., Christodorescu, M., & Leon, P. G. (2016). (Do Not) track me sometimes: Users' contextual preferences for Web tracking, *Proceedings on Privacy Enhancing Technologies,* no. 2, pp. 135-154, https://doi.org/10.1515/popets-2016-0009 [Accessed: 16 April 2024]
Mendys, A., & Jensen, J. (2021). How will Google Privacy Sandbox impact e-CRM of Danish SMEs: A Single Case Study with Freeway ApS, Master's thesis, Economics and Business Administration, Aalborg University, https://kbdk-aub.primo.exlibrisgroup.com/permalink/45KBDK_AUB/a7me0f/alma9921563127805762 [Accessed: 18 April 2024]
Oates, B. J. (2006). Researching Information Systems and Computing, New York: SAGE
Patel, R. & Davidson, B. (2019). Forskningsmetodikens grunder. Att planera, genomföra och rapportera en undersökning (5:1 ed). Lund: Studentlitteratur AB.
Pirilä, L., (2023). AN OVERVIEW ON WEB COOKIES AND PRIVACY. (2023). *JJyväskylä: University of Jyväskylä,* Available at: https://jyx.jyu.fi/bitstream/handle/123456789/85987/URN%3aNBN%3afi%3ajyu-202303142141.pdf?sequence=1&isAllowed=y [Accessed: 12 April 2024].
Polonioli, A. (2022) Zero party data between hype and hope, *Frontiers in Big Data*, vol. 5, https://doi.org/10.3389/fdata.2022.943372 [Accessed: 8 May 2024]
Privacy Sandbox. (2024). Third-party cookies restricted by default for 1% of Chrome users, https://developers.google.com/privacy-sandbox/blog/cookie-countdown-2024jan [Accessed 14 April 2024]
Rasaii, A., Singh, S., Gosain, D., & Gasser, O. (2023). Exploring the cookieverse: A multi-perspective analysis of web cookies, *Passive and Active Measurement (PAM) 2023*, pp. 623-651, https://doi.org/10.1007/978-3-031-28486-1_26 [Accessed 27 March 2024]
Recker, J. (2021). Scientific Research in Information Systems: A Beginner's Guide, Dordrecht: Springer, Available through LUSEM Library, https://doi-org.ludwig.lub.lu.se/10.1007/978-3-030-85436-2_2 [Accessed 24 April 2024]
Rogers, E. M. (2003). Diffusion of innovations, 5th edn, New York: Free Press
Safari Privacy Overview. (2019). Learn how the Safari web browser protects your privacy, https://www.apple.com/safari/docs/Safari_White_Paper_Nov_2019.pdf [Accessed 10 April 2024]
Sahni, N. S., Narayanan, S., & Kalyanam, K. (2019). An experimental investigation of the effects of retargeted advertising: The role of frequency and timing, *Journal of Marketing Research*, vol. 56, no. 3, pp.401-418, https://doi.org/10.1177/0022243718813987 [Accessed 14 April 2024]
Sanchez-Rola, I., Ugarte-Pedrero, X., Santos, I., & Bringas, P. G. (2017). The web is watching you: A comprehensive review of web-tracking techniques and countermeasures. *Logic Journal of the IGPL*, vol. 25, no. 1,pp. 18-29, https://doi.org/10.1093/jigpal/jzw041 [Accessed: 14 April 2024]
Schechner, S. (2021). Google Sets End for Third-Party Cookies. The Wall Street Journal. Eastern Edition. [Accessed: 3 May 2024]

Sipior J., Ward B., & Mendoza R.A. (2011). Online privacy concerns associated with cookies, flash cookies, and web Beacons, *Journal of Internet Commerce*, vol. 10, no. 1, pp. 1-16, https://doi.org/10.1080/15332861.2011.558454 [Accessed: 12 April 2024]

Stallone, V., Gägauf, A., & Kaya, T. (2022). Who ate all our cookies?: investigating publishers' challenges caused by changes in third-party cookie tracking. In *18th International Conference on Web Information Systems and Technologies (WEBIST)*, pp. 97-104, https://doi.org/10.5220/0011336400003318 [Accessed 12 April 2024]

Strycharz, J., Smit, E., Helberger, N., & van Noort, G. (2021). No to cookies: Empowering impact of technical and legal knowledge on rejecting tracking cookies. *Computers in Human Behavior*, vol. 120. https://doi.org/10.1016/j.chb.2021.106750 [Accessed 28 March 2024]

Sweeney, M., & Zawiślak, P. (2024). A Timeline of Apple's Privacy Changes in Safari and iOS [infographic], https://clearcode.cc/blog/timeline-apple-privacy-changes/ [Accessed 10 April 2024]

The Privacy Sandbox. (n.d.). Protecting your privacy online, https://privacysandbox.com/ [Accessed 11 April 2024]

Widodo, H. P. (2014). Methodological considerations in interview data transcription, *International Journal of Innovation in English Language Teaching and Research*, vol. 3, no. 1, pp.101-107, Available online: https://www.proquest.com/scholarly-journals/methodological-considerations-interview-data/docview/1625463330/se-2 [Accessed: 22 April 2024]

Wizaly. (2023). The Walled Gardens of Ad Tech: Unraveling the Intricacies of a Walled Garden in Advertising. [online] Available at: https://www.wizaly.com/blog/analysis/walled-gardens-of-ad-tech/ [Accessed 29 April 2024].

Wood, M. (2019). Today's Firefox Blocks Third-Party Tracking Cookies and Cryptomining by Default, https://blog.mozilla.org/en/products/firefox/todays-firefox-blocks-third-party-tracking-cookies-and-cryptomining-by-default/ [Accessed 10 April 2024]

Wong, B. (2023). Top Social Media Statistics And Trends Of 2024, https://www.forbes.com/advisor/business/social-media-statistics/ [Accessed 6 May 2024]

Zhang, K., & Katona, Z. (2012). Contextual advertising, *Marketing Science*, vol. 31, no. 6, pp. 980–994, https://doi.org/10.1287/mksc.1120.0740 [Accessed: 16 April 2024]

9 Appendix

Appendix A: Interview Request

Hej {namn}!

Hoppas allt är bra med er! Vi är två studenter från Lunds universitet som skriver vår kandidatuppsats inom området informatik. Vi hör av oss till er angående möjligheten till att genomföra en intervju med er eftersom er position anses relevant inom det ämnet vi är ute efter att undersöka.

Intervjufrågorna kretsar kring third-party cookies och dess kommande utfasning, med ett fokus på vilka utmaningar och strategier svenska företag står inför. Några exempel på frågor som kan ställas inför detta syfte är:

- Vad är era prioriterade utmaningar angående den kommande utfasningen av third-party cookies?
- Vad för framtida planer har ni gällande insamling av persondata inför avsättningen av third-party cookies?

Intervjun kommer enbart att användas för akademiska ändamål. Intervjuperson och företag har vid önskemål möjlighet att vara anonym eller använda pseudonymer. Anteckningar och inspelning från intervjun kommer att lagras på en personlig dator. Efter att uppsatsen har lämnats in kommer intervjun med innehåll raderas, och ifall att ni vill ta tillbaka uttalanden från intervjun har ni full rätt till det när som helst. Intervjun tar cirka 30 minuter men anpassas självfallet efter era möjligheter.

Ni kan kontakta oss genom att svara på detta meddelande eller ringa xxx-xx xx xxx.

Ser fram emot att höra från er snart!

Med vänliga hälsningar,

Valentino Erceg, Vu Phan

Systemvetenskapliga kandidatprogrammet, Lunds Universitet