

Ethics Using Personal data for Personalized advertising: Literature Review and Research Agenda

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Abstract

Online advertising systems use the principle of customer-based targeting. It's called Personalized advertising. Personalized advertising is closely related to personal data. So, the ethical dilemma in personalized advertising has been discussed in existing research and becomes a paradox. This study conducted a literature review by analyzing articles from the Scopus database period of 2004-2023 (20 years). This research aims to define Personalized Advertising, explain the Ethical Dilemma, and summarize the Empirical findings. The findings of the literature review are presented in several parts. First, there are various definitions of personalized advertising. Second, the distribution of articles was published in reputable journal, and an overview of the empirical findings from various research was then suggested for future research and policymakers to avoid the ethical dilemma.

Keywords: Personalized Advertising, OBA, Privacy Concern, Ethics

1. Introduction

Currently, most online advertising systems use the principle of customer-based targeting. This is influenced by the development of the internet and the penetration of mobile devices such as cell phones which provide great opportunities for companies to promote products by sending advertisement impressions [1], [2]. In compiling promotions each user is identified and classified according to the user's geographical location. (IP address) and browser settings sent with the HTTP request, navigation habits, and user profile (preferences) completed by the user during the registration process [3], then collect, store, extract, infer, use, sell, and share consumer information to personalize and customize advertising messages [4]. Advertising personalization is closely related to personal data. So, the ethical dilemma in personalized advertising has been discussed in existing research and becomes a paradox. According to Privacy Paradox, by definition, indicates that awareness and knowledge of privacy have the effect of confusing between perceived benefits and risks faced [5].

From the marketer's point of view, grouping audiences into customized groups makes use of big data in the form of demographics, geographic location, and previous online behavior to secure their interests and meet their needs. Such specific monetary benefits offered to consumers by personalized advertising can include incentives such as discount coupons, cash incentives, special offers, prior knowledge of sales, shopping rewards, customized offers, improved customer service, time savings, purchase reminders, and product personalized recommendations [6]. [2] explains that

the effect of advertising personalization on consumer perception is related to relevance. When information-seeking and shopping motivations are more likely to be useful and personally relevant, interest- and preference-tailored advertising messages and recommendations match consumers' shopping and browsing needs. Increasingly suitable ads can help them complete their tasks or reach their goals and so these ads are deemed useful. However, despite these positive aspects, data-based advertising collects and uses user's data inevitably leads to privacy issues [7]. The terms in this advertising personalization in various studies are different and have different definitions "Personalized advertisements ("ads")" "behavior-based ads" "mobile behavioral advertising[1] "OBT" and "online behavioral advertising". online behavioral advertising. Thus, this study aims to define Personalized Advertising, explain the Ethical Dilemma and summarize the Empirical findings. Apart from that, personalized advertising is increasingly being used by marketers to promote branded products and services. The effect of advertising personalization on consumer perceptions and online purchase intentions is still limited and is subject to ethical debate [2].

2. Research methods

2.1 Data source

The literature review in this study used the Scopus database from 2004-2023 (20 years). This research uses the keywords "(Online AND Advertising), (Personalized AND Advertising), (Privacy). The following are the stages used in this study:

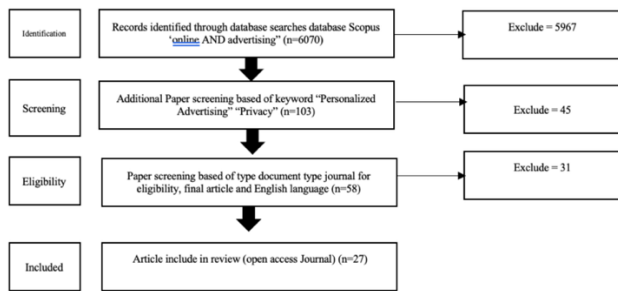


Figure 1 PRISMA

3. Finding

3.1 Literature review

The literature review in this study used the Scopus database from 2004-2023 (20 years). This research uses the keywords "(Online AND Advertising), (Personalized AND Advertising), (Privacy). Based on these keywords, the topic of ad personalization has increased interest from academics. However, personalized Ads are increasingly being used by marketers to promote branded products and services; However, the influence of advertising personalization on consumer perception and online purchase intention has been accepted to be limited especially in situations of different media usage such as Facebook and the Website.

3.2 Distribution of articles by year

Personalized advertising is widely regarded as the future of advertising, yet it remains far from mature [7], [8]. Even though this research only highlights personalized advertising from an ethical perspective, it can be seen in Table 1. there was an increase in the number of publications starting from 2019 until 2023.

Table 1. Frequency distribution of articles by year

Year	Frequency Distribution
2007	1
2013	2
2014	1
2016	1
2017	3
2018	1
2019	2
2020	5
2021	4
2022	5
2023	2
Total publication	27

3.3 Distribution by Publication Quality in Various Field Studies

Table 2. below shows the distribution of articles by journal rank in Schimago Journal Rank (SJR) in various field studies. Based on the data, it was found

that the articles published were in the top journals with the highest number. A total of 27 articles were indexed as high-quality journals were ranked by SJR in various fields of study (Ranked Q1-Q4 by SJR).

Table 2. Distribution by Publication Quality in Various Field study

Journal	Field of Study	Scimago Journal Rank	SJR Last Updated
Information Sciences	Artificial Intelligence Computer Science Applications Control and Systems Engineering Information Systems and Management Software Theoretical Science	Q1	2021
International Journal of Business Information Systems	Information Systems and Management Information Systems Management of Technology and Innovation	Q2 Q2 Q3	2021
Asian Social Science	Arts and Humanities Economics, Econometrics and Finance Social Sciences	Q1 Q3	2018
Journal of Marketing Research	Business and International Management Economics and Econometrics Marketing	Q1 Q1	2021
Cyberpsychology	Communication Information Systems	Q1 Q2	2022 2020

	Pathology and Forensic Medicine	Q2	2020		Economics and Econometrics	Q1	2019
	Psychology	Q2	2022		Marketing	Q1	2019
	Social Sciences	Q1	2022	International Journal of Retail and Distribution Management	International Business and Management	Q1	2021
Computer Communications	Computer Networks and Communications	Q1	2019		Marketing Tourism, leisure and Hospitality Management	Q2	
International Journal of Parallel, Emergent and Distributed Systems	Computer Networks and Communications software	Q3	2022	Computers in Human Behavior Reports	Applied Psychology Artificial intelligent Cognitive Neuroscience	Q1	2022
ACM Transactions on Intelligent Systems and Technology	Artificial Intelligent Theoretical Computer Science	Q1	2022		Computer Science Applications Human Computer Interaction Neuroscience	Q1	2022
Comunicar	Communication Cultural Studies	Q1	2021	Humanities and Social Sciences Communications	Art and Humanities management and Accounting Economics, Finance Psychology Social Sciences	Q1	2022
International Journal of Children's Rights	Political Science and International Relations Social Sciences Sociology and Political Sciences	Q1	2021		Business, management and Accounting Economics, Finance Psychology Social Sciences	Q1	
ACM Transactions on Privacy and Security	Computer Safety, Risk, Reliability and Quality	Q1	2022	Media and Communication	Communication	Q1	2022
Journal of Consumer Policy	Business, Management and Accounting Economics and Econometrics	Q2	2019	Foundations and Trends in Marketing	Economics and Econometrics Marketing	Q2	2021
		Q2	2019		Marketing Communication	Q2	2021
Journal of Business Research	Marketing	Q1	2020	Journal of Broadcasting and Electronic Media	Communication	Q1	2020
Marketing Letters	Business and International management	Q1	2019	International Journal of E-Services and	Computer Networks and	Q3	2022

Mobile Applications	Communications		
	Computer Science	Q4	
	Applications Management	Q3	
	Information Systems		
	Marketing Strategy and Management	Q3	
Journal of Community Genetics	Epidemiology	Q3	2020
	Genetics	Q3	2020
	Public health, environmental and Occupational health	Q2	2020
Sustainability (Switzerland)	Chemical Engineering	Q2	2022
	Control and Systems	Q3	
	Engineering Geography, Planning and Development	Q2	
	Management, Monitoring, Policy and Law	Q3	
	Pollution	Q3	
	Renewable Energy, Sustainability and the Environment	Q3	
	Waste Management and Disposal	Q3	

Sources: Chimago Journal Rank

Access date: October, 24, 2023

3.4 Frequency Distribution by Platform

Personalized advertising strategies come along with technological advances. A person can receive advertisements that match their preferences on their social media pages. There are various social media today such as Facebook, Twitter, Instagram, LinkedIn and Discord. Marketers can also use websites to display advertisements. However, based on Table 3. in existing research Facebook and websites still dominate ad personalization.

Table 3. Frequency Distribution by Platform

Platform	References
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Facebook Advertising	[6], [9], [10], [11]
Website Advertising	[5], [12], [13], [14]
LinkedIn	[15]

3.5 Key Variable in Personalized Advertising

Based on the study, we identified the factors that explain consumer responses to advertising personalization, moderation, and mediation of the factors that explain consumer responses and consumer responses to advertising. Based on Table 1. Several factors explain consumers' response to advertising. First, is the independent variable. Perceived interactivity, personalization, advertising avoidance, privacy, credibility, disliking, inappropriate perception, perceived usefulness, perceived informativeness, privacy concern, level of control, desire for privacy, and flow experiences. The following variables influence consumer response to personalized advertising in various studies: Perceive interactivity is a means for individuals to communicate effectively with each other, not limited by distance or time. One of the interactive capacities of social media is to have the ability to make users use text, images, videos, and links to deliver content that resonates with consumers [6]. The perceived level of personalization is crucial in shaping an individual's views and responses to online advertising. Given how personalized and displayed advertisements on social media are adjusted based on consumer data such as information from the media, the more personalized the ads are felt, the more informative they present, and the more positive consumer attitudes [16], consistent with various research finding ad personalized have positive affect to purchase intention, perceived relevant and negative to perceived incisivness and privacy concern [2]. Then, for customers' responses or outcomes from ad personalized there are Acceptance, avoidance, click intention through advertising, self-efficacy, privacy, brand ethical value, privacy control, and purchase intention. For the moderating variable privacy is a dominant factor that strengthens or weakens an independent relationship on the dependent variable.

Table. 4 Key Variabel in Personalized Advertising

Key Variable	References
Independent variable	
Perceived interactivity	[6]
Personalization	[2], [15], [16]
Advertising avoidance	[6]
Privacy	[6], [14]
Credibility	[6], [14]
Privacy Literacy	[17]

Disliking	[17]
Inappropriate Perception	[17]
Perceived Usefulness	[14]
Perceived informativeness	[16]
Privacy Concern	[16]
Perceived level of control	[1]
Desire for Privacy	[1]
Flow Experiences	[16]
Dependent Variable	
Attitude	[1], [6], [15], [16]
OBA Acceptance	[14]
OBA Avoidance	[14]
Click Intention	[14]
Self Efficacy	[17]
Concern	[1], [17]
Brand Ethical Value	[1]
Privacy Control	[1]
Purchase Intention	[2]
Mediating	
Perceived Intrusiveness	[1], [2], [15]
Attitudinal Persuasion Knowledge	[15]
Visual Attention	[15]
Privacy Concern	[2]
Perceived relevance	[2]
Moderating	
Privacy Concern	[1], [15]
Internet use motivation	[2]
Ad benefits	[1]
Brand Privacy Policy	[1]

3.6 Definition of Personalized Advertising

There are various terms related to advertising personalization such as "Personalized advertisements ("ads")", "behavior-based ads", "mobile behavioral advertising" [1]. "OBT" and "online behavioral advertising". Online behavioral advertising is a technique for conveying relevant messages to consumers based on consumers' online behavior. That is, information is collected about an individual consumer's Internet and mobile activity to get a broad picture of the consumer. Data is collected from various sources such as the websites consumers visit, the search terms they use, and what goods or services they purchase. This information is combined with demographic and geographic data, often coming from other media such as cell phones equipped with GPS [18]. Then, Mobile behavioral advertising is defined as the practice of monitoring and analyzing customers' mobile browsing behavior and using that information to predict interest and then these consumer preferences are used in presenting targeted advertisements that they deem relevant [1].

3.7 Ethical Dilemma

The terms ethics and morals were defined and used by different philosophers, at different times, to refer to different things depending on the context of ethics itself. Advertising personalization is closely related to personal data so the ethical dilemma in this personalized advertisement has been discussed in existing research. The research findings also suggest that users have different attitudes towards customization and personalization, and ethical responses related to tracking user behavior and adapting Web sites to users without consent [19]. The negative effects resulting from personalized advertising are related to privacy and privacy concerns for recipients, feelings of annoyance, avoidance, and rejection of advertisements [14].

3.8 Practical Contribution Avoiding Ethics

There are differences in responses and consumer sensitivity to data. So, companies need to put more emphasis on customization as it is less ethically questionable than personalization, as it does not impose features on the user but is completely controlled by the user. In practical terms, this means that companies tracking user behavior need to disclose their data collection practices and should offer opt-in rather than opt-out facilities to fulfill their obligations to tell the truth and respect others [19]. Then, the proposed advertising method included in the AdROSA (Advertising Remote Open Site Agents) system solves the problem of automatic personalization of web banner ads concerning user privacy (no user's details are stored in the database) and up-to-date advertising policies. It is based on extracting knowledge from web page content historical user sessions and the current behavior of online users, using data mining techniques [3].

3.9 Empirical Findings

Based on research findings, majority of respondents who use Facebook already have an understanding of privacy settings in social media [20]. So that when users feel their privacy is disturbed, they will use settings to limit themselves on Facebook. However, it is also argued that the perceived benefits of online social networking outweigh the risks of disclosing personal information. The habitual use of Facebook and its integration into everyday life shows that Facebook has become an indispensable tool for social capital and connectedness with many people. Innovation will not succeed when the use of data mining for personalization in social networks is limited and not well understood [9]. Users of social networks indicating information understand that it is not the collection of information itself that is of concern. Three levels of privacy concerns have been identified about the scope and use of personalization in social networks. First, it limits the use of data mining in social networks and requires organizations

to consider elements of user control. Second, marketers need to pay attention to aspects that are considered “moderate concern”, namely related to 'data protection' and 'commercialism'. It focuses on the legal aspects of information management and the nature and types of metrics that must be created rather than the scope of use. Lastly, it represents a privacy irritant such as a lack of user awareness. Paradoxical privacy is defined when privacy awareness and knowledge have a confounding effect on perception [5]. On the one hand, people are comfortable knowing when their information is being collected and used, but on the other hand, simply learning about big data aggregation and its relationship to personalized advertising may make it feel like their privacy has been violated. This paradox is also related to knowledge privacy where consumers are less knowledgeable about OBT, and it is not easy to sell their data or pay for websites. In particular, the least informed consumer has unrealistic expectations about the control of their data [15].

4. Conclusion

This study aims to clarify the concept of advertising personalization across different studies and concludes that variations in these definitions primarily stem from the types of data used. Behavior-based advertising and online behavioral advertising, for instance, focus mainly on targeting users based on their browsing or search history. Furthermore, the privacy paradox suggests that individuals' privacy awareness and knowledge may have a confounding effect on their perceptions, thereby raising ethical concerns. Although the research agenda in this area remains underdeveloped, this study highlights several important gaps in the literature and identifies promising directions for future research.

5. Research Direction and recommendation for further research

- Consider conducting a longitudinal study, to understand information privacy issues and show how privacy concerns evolve. Then, further research should consider using different sources of opinion and possibly triangulating different data collection methods to develop a more general theory of information privacy [9].
- Future research should further investigate the role of influence moderation after gaining knowledge of the meaning of the AdChoices Icon. In addition, experimental designs usually involve a trade-off in which the precision and control gained through contrived settings is offset by a corresponding loss of generalizability and realism. Future studies should examine various message designs, contexts, and

population differences to control for differences that may be associated with these factors [5].

- Data collection and aggregation practices as conveyed by Icon AdChoices are still not well understood. So additional research is still needed on the Privacy Paradox and seeing different responses [5].
- The media used in various existing studies focus on the online web and Facebook. Today's social media is very diverse and has been used in advertising targeting. So, further research can analyze and see how consumers perceive other media such as Instagram, TikTok, and YouTube.

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