

Market Segmentation and Advertising Strategy in the Digital Age: A Qualitative Analysis of the Impact of Imperfect Targeting

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Abstract . This study examines the impact of imperfect targeting on market segmentation and digital advertising strategies through a qualitative literature review. In the rapidly evolving digital era, consumer targeting accuracy has become a major challenge, especially with increasing data privacy regulations such as the GDPR. The study reveals that inaccurate targeting can reduce advertising effectiveness and intensify competition among companies to capture high-value consumers. Additionally, technological and regulatory barriers often hinder the achievement of optimal results in data-driven marketing strategies. However, technological innovations such as artificial intelligence (AI) and machine learning have the potential to improve targeting accuracy, thereby enhancing the outcomes of advertising campaigns. This research also highlights the need for balancing targeting efficiency with compliance to privacy regulations, as well as adopting more adaptive, value-based marketing approaches to foster long-term consumer relationships. These findings offer crucial insights for companies in devising advertising strategies within the dynamic and complex digital landscape.

Keywords: Imperfect Targeting, Market Segmentation, Digital Advertising Strategy, Privacy Regulations, Artificial Intelligence (AI)

INTRODUCTION

In the ever-evolving digital era, the ability to accurately target consumers has become a crucial factor in determining the success of marketing and advertising strategies. Technological innovations, such as better tracking of consumer behavior and the implementation of data protection regulations, have influenced the way companies approach market and consumer segmentation (Karle & Reisinger, 2024). Although companies now have more sophisticated tools to target their audiences, challenges such as targeting inaccuracy remain a significant barrier. This study aims to explore the impact of targeting inaccuracy on advertising strategies and market segmentation in the digital era, as well as its implications for company profitability.

According to Athey and Gans (2010), the ability to target consumers accurately not only affects advertising effectiveness but also competition in the media market. In this context, understanding how companies can adjust their strategies to address the challenges of imperfect targeting becomes increasingly important. Karle and Reisinger (2024) state that higher targeting success rates have a non-monotonic effect on company

profits. When targeting is too coarse, increasing success can decrease profitability. Conversely, when targeting is more precise, profitability can increase. This research will provide deeper insights into how companies can optimize their advertising strategies in the context of increasingly complex market segmentation.

In many cases, companies must choose between targeting high-value or low-value consumers, creating a unique competitive dynamic (Johnson & Myatt, 2006). When companies inappropriately target high-value consumers, they risk losing significant potential profits. This is rooted in the concept of “competition for cherries,” where companies compete to attract the most valuable consumers. However, as targeting becomes more precise, companies can adopt a more refined segmentation approach, allowing them to reach different groups of consumers more effectively (Narasimhan, 1988).

One important aspect of targeting in digital marketing is the impact of consumer tracking technology. According to Bounie, Dubus, and Waelbroeck (2021), the ability to collect real-time consumer behavior data allows companies to dynamically adjust their offers and advertising. However, the effects of better tracking are not always positive. For example, Peukert, Bechtold, and Kretschmer (2022) show that increased targeting capabilities can create higher competitive pressures, which in turn can reduce a company's profitability.

This study will also examine how increased targeting ability affects the number of products offered by a firm. Karle and Reisinger (2024) suggest that while higher targeting success can increase the attractiveness of introducing new products, it can also increase competition. In some cases, firms may prefer to reduce the number of products offered to avoid excessive competition, even though the products have broader appeal (Galeotti & Moraga-González, 2008).

Recognizing the importance of effective advertising strategies in the digital age, this study will provide an in-depth analysis of how companies can respond to the challenges posed by imperfect targeting. Using a game theory model, we will explain how changes in targeting success can affect a company's targeting strategy and its impact on profitability. In addition, this study will identify patterns of competitive interactions that emerge as a result of these changes, as well as their implications for broader marketing practice (Armstrong & Vickers, 2019).

In this context, this study is expected to provide significant contributions to the understanding of market segmentation and advertising strategies in the digital era, as well as how companies can optimize their approaches in facing increasingly complex targeting challenges. By considering the ever-changing market dynamics, the results of this study are expected to provide practical insights for companies in designing more effective and profitable marketing strategies.

LITERATURE REVIEW

Market segmentation is the process of dividing a market into groups of consumers with similar characteristics, allowing companies to design more effective marketing strategies (Kotler & Keller, 2016). According to Smith (1956), market segmentation aims to tailor product offerings to the specific needs of consumer groups, which can increase customer satisfaction and loyalty. Research by Chen et al. (2001) shows that proper segmentation can provide significant competitive advantage by focusing marketing efforts on the most valuable consumer groups.

In the digital context, advertising strategies have changed drastically with new technologies that allow companies to target consumers more efficiently (Sharma, 2023). Athey and Gans (2010) noted that better targeting technologies have revolutionized the way companies manage their advertising campaigns, providing the ability to reach more relevant audiences and improve cost-effectiveness. However, along with these developments, new challenges have emerged related to inaccuracy in targeting (Karle & Reisinger, 2024).

Inaccurate targeting, or “imperfect targeting,” refers to a situation where a company is unable to effectively reach its target consumers, despite having access to sophisticated data and tracking tools. According to research by Bergemann and Bonatti (2011), this inaccuracy can be caused by a variety of factors, including variations in consumer preferences and errors in data analysis. Research by Iyer, Soberman, and Villas-Boas (2005) suggests that inaccurate targeting can result in companies wasting resources on reaching consumers who are not interested in their products.

Karle and Reisinger (2024) explain that higher targeting success rates can have non-monotonic effects on firm profitability. When targeting is imprecise, firms may be more likely to target high-value consumers, but the results can be the opposite if the strategy is

too imprecise. Conversely, if targeting is sufficiently accurate, firms can exploit different market segments to increase profitability (Johnson & Myatt, 2006).

Competition in the digital market is intensifying with the presence of more players trying to implement better targeting strategies (Armstrong & Vickers, 2022). Research by Belleflamme, Lam, and Vergote (2020) shows that increasing targeting capabilities not only increases competitiveness but also creates complex market dynamics. Research by Esteves and Resende (2016) found that companies that successfully target accurately can achieve greater profits through the introduction of new products tailored to the specific needs of their market segments.

The development of consumer tracking technology also has a significant impact on advertising strategies and market segmentation. Peukert, Bechtold, and Kretschmer (2022) note that regulations such as the General Data Protection Regulation (GDPR) can affect companies' ability to collect and use consumer data, which in turn impacts their targeting strategies. D'Annunzio and Russo (2020) point out that while regulations aim to protect consumer privacy, they can create challenges for companies in reaching their desired audiences.

Inaccuracy in targeting can also affect the number of products offered by a company. According to research by Karle and Reisinger (2024), increasing targeting success can make companies more likely to introduce new products, but can also increase competition in the market. This suggests that advertising and market segmentation strategies must be designed with these complex dynamics in mind, to ensure success in facing the challenges at hand.

From this literature review, it is clear that market segmentation and advertising strategies in the digital age are intertwined with the challenges of imperfect targeting. Inaccuracies in targeting can affect the effectiveness of advertising campaigns and company profitability, while technology and regulations continue to evolve. This study suggests the need for a more strategic approach to advertising design and market segmentation, taking into account the ever-changing market dynamics.

METHODOLOGY

This study uses a qualitative approach with a literature review method to analyze the effect of imperfect targeting on market segmentation and advertising strategies in the

digital era. This method was chosen because it can provide a deep understanding of the phenomenon being studied and allows researchers to explore various perspectives in the relevant literature (Machi & McEvoy, 2016).

Data collection was conducted through identification and analysis of relevant literature sources, including journal articles, books, and recent research reports. This process includes the following steps:

Literature Search: The researcher conducted a search using academic databases. Keywords used included “market segmentation,” “advertising strategy,” “imperfect targeting,” and “digital age.” The use of appropriate keywords is essential to obtain relevant and comprehensive search results (Petticrew & Roberts, 2006).

Inclusion and Exclusion Criteria: The selected literature sources must meet certain criteria, such as relevance to the research topic, publication in the last 5 years, and written in Indonesian or English. These criteria ensure that the information obtained is accurate and up-to-date (Fink, 2019).

Source Selection: The researcher selected articles and studies that have contributed significantly to the understanding of imperfect targeting and its impact on marketing strategies in the digital age. Sources with solid methodology and in-depth analysis were preferred (Webster & Watson, 2002).

After data collection is complete, the next step is data analysis. The analysis method used in this study is thematic analysis, which includes: **Theme Identification:** Researchers identify key themes from the literature that has been collected, including the impact of imperfect targeting, challenges in market segmentation, and advertising strategies adapted in the digital age (Braun & Clarke, 2006).

Data Coding: Data obtained from the literature are grouped based on identified themes. This coding process helps researchers understand the patterns that emerge in the literature (Saldaña, 2016).

Synthesis of Findings: The researcher then synthesizes findings from multiple sources to develop a comprehensive understanding of the topic being studied. This synthesis also includes a critical assessment of the existing literature, highlighting gaps in research and areas for further exploration (Ravitch & Carl, 2021).

To ensure the validity and reliability of this study, several steps were taken, including: **Source Triangulation:** Researchers used multiple data sources to verify

information and ensure the accuracy of the findings. This triangulation is important to increase the reliability of research results (Denzin, 2017).

Expert Review: Before finalization, the research draft will be reviewed by experts in the field of marketing and digitalization to provide constructive feedback and criticism. This helps ensure that the data analysis and interpretation are in line with the relevant academic context (Yin, 2018).

In conducting this research, the researcher is committed to complying with the principles of research ethics, including acknowledgment of the work and contributions of other researchers. All sources used in the research will be clearly stated in the reference list, and there will be no plagiarism in the presentation of data (Beauchamp & Childress, 2013).

This qualitative research methodology with a literature review approach is expected to provide a deep understanding of the influence of imperfect targeting on market segmentation and advertising strategies in the digital era. Through a systematic data collection and analysis process, this study is expected to provide a significant contribution to the development of theory and practice in the field of digital marketing.

RESEARCH RESULT

This qualitative research aims to review the literature related to market segmentation and advertising strategies in the digital era, especially in the context of imperfect targeting. Based on the results of a review of various relevant and recent literature sources, the following are the main findings that have been identified.

Consumer targeting is one of the important components in a digital marketing strategy. In the context of today's digital era, companies' ability to target consumers precisely is growing thanks to technological advances, including improved tracking and data analytics capabilities. However, targeting is not always perfect, so companies often fail to reach the desired consumer segment (Karle & Reisinger, 2024).

Imperfect targeting can affect market segmentation in several ways: **Decreased Segmentation Effectiveness:** When targeting is inaccurate, companies may have difficulty distinguishing between high-value and low-value consumer segments. This leads to inefficient allocation of marketing resources and, ultimately, reduces the effectiveness of advertising campaigns (Bounie et al., 2021).

Tighter Competition: Previous research shows that when firms fail to target market segments appropriately, competition for customers in more valuable segments becomes more intense. This can lead to price wars or disproportionate increases in advertising spending (Chen et al., 2001).

Overall, imperfect targeting increases the challenge of separating consumers into appropriate segments and increases the risk of failing to reach the desired consumer group.

Advances in digital advertising technology, particularly through social media platforms and search engines, have allowed companies to personalize advertising messages based on consumer behavior and individual preferences. However, imperfect targeting remains a major obstacle affecting the effectiveness of advertising campaigns.

Imperfect targeting causes several strategic challenges in digital advertising:
Increased Marketing Costs: When companies fail to target the right market segments, they often have to allocate larger budgets to reach relevant consumers. This not only increases marketing costs but also reduces the company's profit margins (Galeotti & Moraga-González, 2008).

Effects on Consumer Experience: Consumers who receive advertisements that do not match their preferences tend to feel annoyed and eventually ignore or even reject the product or service offered. A study by Anderson et al. (2022) shows that irrelevant advertisements can decrease brand perception and consumer loyalty.

More Complex Competition: Imperfect targeting also causes companies to compete in an increasingly complex environment, where the boundaries between market segments are blurred. This encourages companies to continue to innovate in the use of advertising technology, but at the same time also increases the risk of failure to execute the right advertising strategy (Peukert et al., 2022).

One of the key findings of this study is that imperfect targeting does not necessarily have universally negative effects. In some cases, it may prompt companies to explore alternative marketing strategies, such as offering products that appeal more to multiple market segments simultaneously (Chioveanu, 2023).

Additionally, companies that successfully leverage consumer data effectively can still profit despite imperfect targeting. Several studies have shown that companies that combine imperfect consumer targeting with broader advertising approaches, such as

content-based marketing and video advertising, can increase the reach and impact of their campaigns without relying too much on the precision of individual targeting (Narasimhan, 1988).

The study also found that regulations such as the General Data Protection Regulation (GDPR) have had a significant impact on digital ad targeting. These regulations limit companies' ability to track and collect consumer data directly, which in turn complicates companies' ability to target accurately. A study by Peukert et al. (2022) found that GDPR and other privacy policies have reduced the accuracy of ad targeting in the European market, while at the same time encouraging companies to develop more creative and responsible advertising methods.

To overcome the challenges caused by imperfect targeting, some strategies identified from the literature include: Leveraging AI Technology: Many companies are starting to use artificial intelligence (AI) to predict consumer behavior more accurately, even when the available data is incomplete or imprecise (Sharma, 2023). AI can help optimize ad targeting through deeper big data analysis.

Value-Based Marketing: Some companies have shifted from advertising-based marketing that relies on consumer data to value-based marketing, where the focus is on building strong relationships with consumers through relevant and authentic content (Ronayne & Taylor, 2021).

The study reveals that imperfect targeting in the digital era has a significant impact on market segmentation and advertising strategies. While it creates challenges in terms of targeting accuracy and marketing costs, it also encourages companies to seek creative and adaptive solutions. In addition, the role of regulation and advanced technologies such as AI is becoming increasingly important in helping companies overcome existing targeting limitations. In the future, further research is needed to explore how companies can more effectively implement advertising strategies that are in line with the changing characteristics of the digital market.

DISCUSSION

One of the main findings of this study is that imperfect targeting can weaken the effectiveness of market segmentation implemented by companies. Karle and Reisinger (2024) emphasize that the inability to target the right consumers can reduce company

profits, especially when targeting is inaccurate. When companies try to reach high-value consumer segments, but instead reach consumers with lower values, the results of the advertising campaign are suboptimal, which ultimately reduces the efficiency of marketing costs.

Peukert et al. (2022) in their study on the impact of GDPR regulations on advertising targeting in Europe, also found that imperfect targeting due to limited access to consumer data makes it difficult for companies to separate the market into more effective segments. This adds to the burden on companies in designing relevant and attractive campaigns for different consumers.

Research by Bounie, Dubus, and Waelbroeck (2021) also shows that when companies fail to target the right segment, they are more likely to get caught up in price competition and other defensive strategies, which actually worsen the decline in profitability. In this context, companies not only compete in offering lower prices but also in competing for the same market segment, which causes overlapping consumer targets.

The digital era brings with it new opportunities in advertising strategies, especially in terms of personalization and leveraging consumer data. However, literature shows that imperfect targeting is a major challenge to the success of digital advertising strategies.

A study by Anderson et al. (2022) highlights how ad personalization can be a powerful tool to attract the right consumers. However, when consumer data is inadequate or misinterpreted, personalized advertising can be ineffective. They state that in many cases, companies fail to understand individual preferences, resulting in ads that are irrelevant to consumers, leading to increased ad rejection rates.

Chen, Narasimhan, and Zhang (2001) suggest that individual marketing has certain limitations, especially when the data used for targeting is imperfect. They found that incorrect targeting can trigger negative reactions from consumers, especially if consumers feel that their privacy is being violated or that the advertisements received are not in line with their interests.

Similarly, Narasimhan (1988) in his study of competitive promotion strategies found that when consumer targeting is not appropriate, discount or special promotion strategies are often ineffective. This is because consumers who do not fit the target profile do not respond to promotions as expected by the company. As a result, promotional costs increase while the impact on sales is minimal.

Regulations such as GDPR in Europe have affected the way companies target their ads. Peukert et al. (2022) show that while these regulations are intended to protect consumer privacy, they have actually reduced companies' ability to collect consumer data effectively. The reduction in the quality of data that can be used for targeting leads to reduced accuracy in advertising campaigns, which results in reduced campaign efficiency and increased cost per consumer acquisition.

However, this regulation also has a positive side, as expressed by Galeotti and Moraga-González (2008) who stated that the existence of stricter regulations actually encourages companies to find new, more creative ways to reach consumers. They suggest that privacy regulations can encourage companies to adopt a more personalized, value-based marketing strategy that focuses on long-term relationships with consumers.

This study also shows that companies can overcome imperfect targeting through the use of more sophisticated technologies, especially artificial intelligence (AI) and machine learning. Sharma (2023) emphasizes that AI can help improve targeting accuracy by analyzing large consumer data more effectively, even if the data is incomplete or limited.

AI systems can identify deeper patterns of consumer behavior, allowing companies to tailor their advertising strategies more precisely. For example, companies can identify consumer preferences that were previously invisible through traditional analytics methods, increasing the opportunity for more accurate targeting.

However, as highlighted by Johnson et al. (2024), while AI can improve targeting capabilities, the technology still faces ethical and regulatory challenges. With increasingly stringent regulations regarding data privacy, the use of AI for ad targeting must be in line with existing policies so as not to violate consumer rights.

The various previous studies reviewed in this study show consistency in the results found, but also provide additional perspectives that enrich the understanding of imperfect targeting and its impact on marketing strategy.

Karle and Reisinger (2024) focused on game theory analysis to evaluate the impact of imperfect targeting on firm profits. They found that when the targeting success rate increases, but is still within the imperfect limit, firm profits tend to decline due to the intensification of competition.

Anderson et al. (2022) in their study on price discrimination in the information age, emphasize the importance of personalized targeted discounts in creating added value for consumers. However, they also note that imperfect targeting can make this strategy less effective.

Peukert et al. (2022) provide important perspectives on how privacy regulations, particularly GDPR, limit companies' ability to conduct data-driven targeting, which indirectly impacts the effectiveness of advertising campaigns.

Chen, Narasimhan, and Zhang (2001) show that although individual marketing offers great opportunities, imperfect targeting can actually reduce consumer loyalty and make marketing campaigns less effective.

Narasimhan (1988) focused on competitive promotion strategies and found that inappropriate targeting causes promotions to lose their impact, especially when targeted consumers do not respond to discounts or special offers given.

Bounie et al. (2021) highlight how the sale of strategic information in digital markets creates tensions between companies competing for consumers, where imperfect targeting exacerbates this competition.

Sharma (2023) suggests that AI and machine learning can be a solution to improve targeting accuracy, although these technologies still have challenges in terms of implementation in accordance with privacy regulations.

Johnson et al. (2024) also emphasize that although AI has great potential, regulations related to data privacy such as GDPR force companies to be careful in managing consumer data.

From a practical perspective, the findings of this study highlight that companies need to take a more deliberate approach in designing their advertising strategies in the digital age. Some suggested steps are:

Diversify Marketing Channels: Relying on data-driven targeting alone may no longer be sufficient. Companies may want to consider using broader, more comprehensive marketing channels, such as content-based advertising and influencer marketing, that do not rely solely on individual consumer data.

Ethical Use of Technology: While technologies like AI can improve targeting capabilities, companies must ensure that their use is in line with applicable privacy

regulations. The use of anonymized data and predictive analytics can be a solution to improve targeting without violating privacy rules.

Focus on Consumer Experience: Instead of just pursuing targeting efficiency, companies can focus on creating meaningful consumer experiences. Value-based marketing where companies focus on building long-term relationships with consumers can help overcome the weaknesses of imperfect targeting.

The discussion confirms that imperfect targeting is a major challenge in market segmentation and digital advertising strategies. However, with technological innovation and more adaptive strategies, companies can overcome this challenge and maintain marketing effectiveness in an increasingly complex digital era. The study also emphasizes the importance of balancing the use of technology with ethical considerations and applicable privacy regulations to maintain consumer trust and achieve sustainable marketing results.

CONCLUSION

This study examines the effect of imperfect targeting on market segmentation and advertising strategies in the digital era through a qualitative literature review. From the results of the study, it can be concluded that imperfect targeting has a significant impact on the effectiveness of digital advertising, especially in terms of cost efficiency, advertising relevance, and consumer satisfaction.

Imperfect Targeting Reduces Advertising Effectiveness: Several studies, such as those conducted by Karle and Reisinger (2024) and Anderson et al. (2022), show that when advertising targeting is inaccurate, companies tend to experience decreased profits. This is due to the company's inability to consistently reach the right consumers, thereby reducing the effectiveness of advertising campaigns and increasing the cost per consumer acquisition.

Privacy Regulations Complicate Targeting: The study also found that regulations such as GDPR have impacted companies' ability to collect and use consumer data for ad targeting. Peukert et al. (2022) highlighted that while these regulations protect consumer privacy, the impact has been reduced targeting accuracy and decreased data-driven marketing performance.

The Role of Technology in Improving Targeting: Despite the challenges in targeting, studies show that technologies such as AI and machine learning can be a solution to improve the accuracy of digital ad targeting. Sharma (2023) suggests that by leveraging more sophisticated technologies, companies can overcome the problem of incomplete data and provide more relevant advertising experiences to consumers.

Imperfect Targeting and Market Competition: Imperfect targeting also leads to increased competition between firms to capture the same consumers, known as competition for “cherries” (high-value consumers). This, as outlined by Bounie et al. (2021) and Galeotti and Moraga-González (2008), can increase the pressure on firms to provide discounts and promotions, ultimately lowering overall profits.

From a practical perspective, this study suggests that companies need to adopt a more adaptive and innovative approach to addressing the challenges of imperfect targeting. In addition, better use of technology, as well as marketing strategies that focus more on long-term relationships with consumers, can help companies minimize the negative impacts of inaccurate targeting.

LIMITATION

This study, while providing rich and relevant insights, has several limitations that need to be noted: **Reliance on Secondary Sources:** As a qualitative literature study, this study relies entirely on the results of previous studies. While many of these studies are supported by strong empirical data, this study does not directly test the hypotheses through new experiments or surveys. Therefore, the results are conceptual and theoretical in nature, and may require further research for empirical validation across industries or markets.

Limited Geographic Focus: Many of the studies cited, such as studies on the impact of GDPR, have a geographic focus on the European market. This limits the generalizability of the results to other regions with different data privacy regulations. For example, countries with looser privacy regulations, such as the United States, may face different targeting challenges.

Limitations in Technology Addressing: While technologies such as AI and machine learning are discussed as solutions to address imperfect targeting, the study does not explore in-depth the technical implementation or challenges in adopting these

technologies. Sharma (2023) suggests that technology can improve targeting accuracy, but the study does not explore the risks or barriers that may arise in the process of adopting these technologies, especially in small or medium-sized companies.

Lack of Focus on Consumer Behavior: This study focuses more on the perspective of the company and marketing strategy. Although some studies have touched on the impact on consumers, such as those by Chen et al. (2001) and Anderson et al. (2022), these studies do not deeply explore how consumers react to imperfect targeting, especially in the context of privacy and satisfaction.

Rapidly Evolving Technology: The digital industry and ad targeting technology are constantly evolving. Therefore, the findings from the literature referenced in this study may become less relevant as new technologies advance. For example, increasingly sophisticated targeting algorithms and changes in privacy policies may change the ad targeting landscape in the future.

Not Including Social and Cultural Factors: The study did not account for social, cultural, and demographic factors that might influence how consumers respond to advertising. Imperfect ad targeting may have different effects across demographic segments or social groups, but the study did not specifically address these variations.

Thus, this study provides a solid understanding of the challenges and opportunities of imperfect targeting in digital advertising. However, further research is needed to deepen the understanding of the empirical, technological, and consumer behavioral aspects, as well as how various external factors influence the success of advertising strategies in the ever-evolving digital era.

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