Chapter 2

Algorithmic Manipulation: Influencing Consumer Behavior

" if you're not paying for the product, then you are the product. "

Andrew Lewis

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Abstract

Andrew Lewis's quote, "If you are not paying for the product, you are the product," summarizes the functioning of digital platforms. YouTube (excluding premium membership) and similar social media platforms provide free services to users while collecting user data to feed their algorithms and enhance engagement through personalized content and targeted advertising strategies (Iena, 2023:838-839). In this context, although users do not make direct payments, the revenue model is fundamentally based on extending the time spent on the platform.

Algorithms, combined with technologies such as artificial intelligence, machine learning, and deep learning, offer businesses the opportunity to analyze consumer behavior and personalize marketing strategies. However, these technologies are not only innovative tools but also have an aspect that includes ethical issues and manipulative effects. The algorithms behind digital technology, for instance, analyze users' interests to keep them on the platform longer while also giving them the feeling of "missing out," thereby influencing purchasing behavior. Furthermore, presenting content based on users' emotional states, violations of data privacy, and elements of psychological pressure bring the ethical dimension of algorithmic manipulation into

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question.This study explains the theoretical foundations of algorithmic manipulation, its potential negative effects on consumer autonomy, and its capacity to influence consumer behavior.

1. Introduction

Algorithms, rooted in the field of mathematics, have been developed to solve specific problems by utilizing mathematical logic and procedural steps (Sayılı & Dosay, 1991:102; Finn, 2017:17; Miyazaki, 2012; wikipedia.org/03.01.2025). An algorithm is a procedure consisting of systematically defined and ordered instructions designed to solve a particular problem or perform a specific task. Algorithms take a given input, process it systematically, and produce the desired output (Önder, 2024; Chaudhuri, 2020:2). According to Google's definition, algorithms are mechanisms that analyze users' queries through computational processes and formulas, transforming them into meaningful answers (Finn, 2017:18). More generally, an algorithm is a systematic method that processes input values according to a specific logical framework and transforms them into output values. While the problem definition identifies the intended output and the corresponding input-output relationship, the algorithm clearly and explicitly describes the steps to achieve this goal. In other words, an algorithm is a structured set of instructions designed to solve a specific problem (Cormen et al., 2009:5; Miyazaki, 2012; Chaudhuri, 2020:2; Altun, 2018:38).

The term "algorithm" originates from the medieval Western European term "algorismi" or "algoritmi," which referred to the calculation method performed using Hindu-Arabic numerals. Various forms of this term, derived from the name of the mathematician Al-Khwarizmi, laid the foundation for the modern concept of the "algorithm" as a specific computational method. It is suggested that mathematical calculation methods were introduced to Western Europe through Al-Khwarizmi's works, ultimately leading to the emergence of the term "algorithm" (Sayılı & Dosay, 1991:102; Finn, 2017:17; Miyazaki, 2012; wikipedia.org/03.01.2025; Üngör et al., 2020:99). Based on the historical relationship between Al-Khwarizmi and algorithms, the Turkish Ministry of National Education has implemented the Khwarizmi Education Model to equip students with algorithmic thinking and problem-solving skills (harezmi.meb.gov.tr/03.01.2025; Coşkun Keskin et al., 2023:259).

Algorithms are clearly rooted in the field of mathematics, making it important to note that algorithms existed even before the emergence of computer science (Finn, 2017:17). However, the advancement of computer science and technology has facilitated the development of a greater number

of algorithms (Cormen et al., 2009:14). Mathematical thinking processes and systematic problem-solving methods have been employed across various disciplines throughout history. With the development of computer science, algorithms have become more distinct and structured. Algorithms are at the core of computer science. Many of the technologies used in modern computers are built upon algorithms (Cormen et al., 2009:14). Algorithms serve as the mechanisms underlying numerous technologies, enabling systems to operate faster, more efficiently, and more intelligently (Shekhar et al., 2018:674). Additionally, algorithms are defined as systems that develop effective strategies by providing solution-oriented steps when encountering any issue or problem (Özkök, 2019:14).

Technologies such as artificial intelligence, machine learning, and big data analytics enhance the accuracy and functionality of algorithms, facilitating the lives of both businesses and individuals (Arıcan Kaygusuz, 2023:534). In this context, machine learning, a subfield of artificial intelligence, has gained significant popularity in recent years, with many technology companies achieving remarkable advancements through algorithms in this domain. For instance, digital platforms like Netflix utilize machine learning algorithms to analyze users' past viewing habits and provide personalized content recommendations (Shekhar et al., 2018:674). Particularly, "deep learning" stands out as a branch of artificial intelligence that offers significant innovations in areas such as speech recognition, personal assistants, image recognition, and security camera analyses. These algorithms, which possess the ability to learn at a speed comparable to human perception, are referred to as "deep learning" (Arıcan Kaygusuz, 2023:534).

In addition to their robust infrastructure and numerous advantages, algorithms also have ethically and socially controversial aspects (Kayıhan et al., 2021:296). It is argued that algorithms are not only tools used to solve problems and facilitate human life but are also employed to manipulate users' data (Finn, 2017:17). With technological advancements, ethical issues related to algorithms have been observed to increase. For instance, algorithms can sometimes lead to ethical concerns such as misinformation, violations of data privacy, or the creation of discrimination. This situation indicates that algorithms can be viewed not only as tools for beneficial purposes but also as instruments carrying the risk of misuse. Therefore, adhering to ethical and transparency principles is crucial during the development and application of algorithms (Kayıhan et al., 2021:296).

Etymologically, the term "manipulation," meaning "to operate" and "to use" (Özkök, 2019:14), refers to the process of altering information

through selection, addition, or removal (Fırat, 2008:22-23). The concept of manipulation has been addressed from various perspectives across different disciplines and is generally defined as the process of misleading and directing an event, situation, or individuals (Eryılmaz, 1999:21; Altuncu, 2013:116).

An important aspect of manipulation involves influencing an individual without fully engaging their rational faculties (Sunstein, 2016, cited in Christiano, 2022:110). According to Ergül Güvendi (2023:57), manipulation is related to the psychological and social effects consciously applied by one individual to influence, direct, and alter the behavior of another individual against their will. According to Atan et al. (2013:2), manipulation is the reorganization of data in accordance with a specific intention, involving the use of misleading methods in the process.

Algorithms operate as a series of step-by-step procedures or commands executed to achieve a specific goal. In this process, they determine how to proceed to reach the defined objective and ensure that these actions are carried out in a particular sequence (Goffey, 2008, cited in Witzenberger, 2017:17). Algorithms perform functions such as analyzing user behavior, providing content and recommendations based on personal preferences, guiding individuals or groups toward specific ideas, shaping public opinion, and delivering content based on emotional states. However, it should be considered that during the stages of data collection and processing, these processes may lead to conscious or unconscious manipulations of users.

Manipulation refers to the deliberate intervention in the message structure and content between the sender and the receiver. This intervention is typically carried out by the source of the message or through specific tools, and it affects the cognitive processes of the receiver, influencing them to generate desired thoughts and ideas, with the aim of changing or directing individuals' thoughts for various purposes (Elitaş, 2022:115). Particularly, the functionalization of data-driven marketing activities indicates that an approach centered on the consumer, with the primary goal of influencing them, has been adopted. In this context, algorithms play a critical role in marketing processes (Karaman, 2021:1341-1344). While consumer manipulation was previously carried out through traditional communication channels, with the widespread use of digital environments today, this process is also conducted through digital channels. The spread of deceptive content in digital and internet environments, the exploitation of individuals' vulnerabilities, social media addiction, social isolation, digital harassment, data privacy violations, and unethical practices such as guiding individuals through manipulative methods are becoming increasingly significant issues

(Şen, 2024:18). In this context, it should not be overlooked that algorithms are not only tools that improve user experience but also mechanisms that direct and even manipulate individual behaviors. In this regard, the widespread use of algorithmic manipulation and the magnitude of its effects are critical issues that must be considered. This section explains the potential of algorithms to influence consumer behaviors through data manipulation.

2. Algorithmic Manipulation and Its Theoretical Foundations

Algorithms are fundamental elements that determine the operation of digital systems and infrastructures. They not only guide the operation of a single software or device but also form the foundation of a wide technological system, including the internet, mobile devices, digital services, and network infrastructures (Kitchin, 2014:11; Karaman, 2021:1341). Algorithms are powerful tools that are rapidly evolving and integrated into many different areas of our lives today (Finn, 2017:15; Witzenberger, 2017:25). Algorithms not only regulate the operation of technical systems but also form the foundation of technological processes that have deep impacts on daily life (Kitchin, 2014:11; Karaman, 2021:1341). On digital platforms, manipulation strategies of algorithms are referred to as "algorithmic manipulation." This manipulation strategy processes user data to direct individuals toward specific behaviors (Vangeli, 2023:15). The effect of manipulative messages prevents individuals from making rational evaluations within the information pollution (Elitaş, 2022:116).

Manipulation is a type of psychological influence that shapes people's behaviors and thoughts, targeting social consciousness. Directing individuals to perform certain actions unconsciously and creating a socio-psychological control mechanism that is difficult to notice by the target audience are among the core functions of manipulation (Rohach & Rohach, 2021:47). Algorithmic manipulation becomes more complex and problematic as online algorithms are trained with more personalized user data. Algorithms are fed with users' health status, age, past experiences, and other personal data; they use this information to better predict and guide user behaviors (Vangeli, 2023:15). The prominent aspect of algorithmic manipulation is the amount of data that algorithms can process, the accuracy of targeting individuals, and the ability to calculate and continuously update all these processes at high speed (Christiano, 2022:115).

Algorithms have powerful functions such as controlling the flow of information, shaping user behaviors, and influencing social processes (Witzenberger, 2017:18). Hypernudging is a strategy that attempts to

influence individuals' decisions by presenting relationships and connections determined by algorithms to users (Rickert, 2024:424). Hypernudging enables algorithms to dynamically restructure the guidance process based on the data they receive. In this process, algorithms are updated according to individuals' current behaviors and previous interactions, providing personalized guidance (Christiano, 2022:115).

Recommendation algorithms, as part of recommendation systems, work by analyzing data such as users' past behaviors, preferences, and profiles to predict whether they will like a specific product or content (Isinkaye et al., 2015:262). Persuasion algorithms, on the other hand, are systems designed to encourage individuals to adopt a specific behavior change (Albers et al., 2022:2). These types of algorithms are strategically used to influence users' decisions and guide them toward a specific goal (Karaman, 2021:1341).

3. Areas of Application and Behavioral Effects of Algorithmic Manipulation

Algorithms use data to perform analysis, make accurate predictions, and contribute to the efficient operation of processes in order to achieve a specific goal (Witzenberger, 2017: 24-25). With advancements in computer science, algorithms are no longer limited to academic or technical fields; they are also finding widespread application in the business world (Karaman, 2021:1341). The fact that algorithms are indifferent to ethical and moral values in social interactions and fail to adhere to ethical rules while managing human social relationships and interactions is noted as a significant issue. This indifference can lead to algorithms influencing people in a manipulative manner (Vangeli, 2023:13).

The power of algorithms has become more visible, particularly in fields such as digital media, artificial intelligence, data analytics, and social media (Witzenberger, 2017:18; Saurwein & Spencer-Smit, 2021:223). Individuals are continuously interacting with structures shaped by algorithms at every stage of their daily lives in the digital world, from online dating to route navigation, information searching to shopping (Striphas, 2015, cited in Witzenberger, 2017:17).

Every online action of users is added to the data set, allowing algorithms to use this data to develop strategies for more accurately predicting and influencing individuals' behaviors (Vangeli, 2023:15). For example, when a user wants to purchase a book online, the system analyzes their behavior in detail. All interactions, such as the products the user has viewed, purchased, or added and removed from the cart, are recorded, and these data are compared

with the behaviors of other users with similar interests. As a result, the algorithms created from this process offer personalized recommendations, helping to understand user behavior (Özkök, 2019:9-10) and shaping the user experience.

Algorithms are used in various fields, ranging from stock market transactions (such as investment decisions and trading strategies) to music composition (such as creating lyrics and melodies), from autonomous vehicles to writing news articles (Finn, 2017:15). With these developments, technological advancements and digitalization also significantly expand areas susceptible to manipulation (Atan et al., 2013:2). This situation brings with it the foreseeable risk of increased manipulation through widely used algorithms.

Algorithmic manipulation, unlike traditional manipulation techniques, offers more systematic and targeted interventions by utilizing big data and artificial intelligence systems (Vangeli, 2023:13). In this regard, manipulations can be carried out by companies and other organizations in various environments and contexts, for different purposes (Ljubičić & Vukasović, 2023:11).

Algorithms encompass a wide range of disciplines (Witzenberger, 2017:25). Manipulation, on the other hand, is a phenomenon that is commonly encountered across different disciplines and various application areas (Begtimur, 2022:10). A review of the literature reveals not only the concept of algorithmic/algorithm manipulation (Fletcher, 2021; Galli, 2022; Vangeli, 2023; Fu & Sun, 2024), but also the manipulation concept being addressed in different contexts: digital manipulation (Reaves et al., 2004; Singh et al., 2024; Mucundorfeanu et al., 2024; Elitaş, 2022), market manipulation (Putni□š, 2012; Li et al., 2024), digital market manipulation (Calo, 2013; Greiss, 2021), marketing manipulation (Ljubičić & Vukasović, 2023; Jiaying & Lasi, 2023), consumer manipulation (Witte, 2023; Li & Li, 2023; Reuille-Dupont, 2023; Quinelato, 2024), online manipulation (Susser et al., 2019; Susser et al., 2019a; Boldyreva et al., 2018; Botes, 2023), social media manipulation (Bastos, 2024; Maathuis & Kerkhof, 2023; Maathuis & Godschalk, 2023), FoMO (fear of missing out) manipulation (Tan et al., 2024; McKee et al., 2023), manipulation of needs (Lodziak, 2003; Yılmaz & Tatoğlu, 2024; Senemoğlu, 2017; Rohach & Rohach, 2021). These manipulation concepts can be applied in different areas (e.g., politics, finance), and are particularly common in the field of marketing. While politics and marketing are the areas where manipulation is most prominently used, its effects have also been observed in many disciplines such

as media, psychology, finance, and public relations (Begtimur, 2022:10). The primary reason for this is that manipulation is a powerful method aimed at influencing and directing human behavior (Vangeli, 2023:2; Michalak & Stypi□ski, 2023:196). In this context, politicians, managers, mass communication actors, and marketers are among the groups that have most effectively utilized manipulation throughout history (Begtimur, 2022:10).

In marketing, manipulation techniques can be applied in promotional and business activities to facilitate the sale of products and services (Vukasović & Ljubičić, 2022:104). This leads to the possibility of consumers encountering manipulation techniques in their daily lives (Ljubičić & Vukasović, 2023:11). Advertising strategies, pricing policies, shrinkflation[3], consumer purchasing processes, product features, product placement, labeling, packaging designs, fake word-of-mouth (WOM), fake user reviews, campaigns, and consumer experience, when combined with the use of personal data on online platforms, result in the widespread use of manipulation techniques in the marketing field. This can lead to consumers being guided consciously or unconsciously, directly affecting their decision-making mechanisms.

The impact of manipulation in fields such as journalism, photography, and social media is becoming increasingly evident (Atan et al., 2013:2). Social media stands out as an effective tool for manipulating masses, and it is noted that manipulative content can spread rapidly through these platforms (Atan et al., 2013:2). Platforms like social media, e-commerce, and search engines present content based on users' interests, and techniques such as hypernudging and micro-targeting[4] are used in this process (Çaycı, 2021:909). For example, Facebook and other advertising platforms use user data for marketing purposes by allowing advertisers to select specific users and target them with well-crafted messages (Chouaki et al., 2022:1). Applications like filter bubbles ensure that the social media algorithm only allows the individual to consume information that aligns with their interests and ideology (Çaycı, 2021:909). Filter bubbles[5] are cognitive barriers that

3 Shrinkflation: It is a strategy where the size, quantity, or weight of a product is reduced while keeping the price constant or limiting the price increase to a minimum level (Erdoğan & Gürbüz, 2023:1). This strategy is considered a manipulative marketing method because it may lead consumers to unknowingly purchase less product for the same price. Especially when the reduction in product quantity or size is not explicitly stated, consumers may engage in purchasing behavior without noticing this change, creating the impression that companies are manipulating consumer behavior.

4 Micro-targeting aims to deliver engaging and relevant messages to individual users, encouraging them to pay attention to the advertisement or take a desired action (such as making a purchase or sharing the message on their social networks).

5 Filter bubbles (the personalized flow of information tailored to an internet user's preferences and past interactions) can limit how a person views the world and what information they can

emerge as a result of excessive personalization, limiting digital consumers' ability to notice alternative offers, products, or service options (Karaman, 2021:1347-1348). In this regard, journalist and writer Serdar Kuzuloğlu states that *"the addictive nature of social media platforms for users and their continuous use throughout the day does not indicate that the content is consumed unconsciously or of high quality. The main reason for this is the influence of the algorithms operating behind the content."* According to Kuzuloğlu, algorithms are developed as a result of the collective efforts of psychiatrists, psychologists, behavioral scientists, algorithm experts, and other scientists from various disciplines (gencenderun/instagram.com/19.02.2025).

The role of manipulation in the communication process is also quite prominent, and it is well known that mass media plays a central role in manipulation strategies. Mass media not only targets individuals but also communities, functioning as a tool for mass guidance (Elitaş, 2022:115-116). In the context of mass media, manipulation is manifested through the misguiding and directing of the masses with a one-way flow of news. Information from the news source is restructured during the process from production to consumption and presented in different contexts, gaining a manipulative function (Fırat, 2008:22-23). Especially in digital environments where individuals are constantly online, manipulation strategies through visual and auditory messages are applied systematically (Elitaş, 2022:115-116).

Algorithms play a critical role in various sectors such as healthcare, finance, transportation, education, and agriculture, aiming to increase efficiency, optimize processes, and make more accurate predictions. In this regard, it can be said that algorithms have a significant impact across numerous sectors and have become an indispensable element of daily life (Arıcan Kaygusuz, 2023:534). However, effective management of this process requires the use of data (Witzenberger, 2017:17). Algorithmic analyses based on personal data and user behaviors have the potential to influence individuals' decisions. These strategies are implemented through the use of personal data (Karaman, 2021:1341), and it is known that they

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access. When the content on the internet is solely customized for the individual, it may become difficult for them to encounter different perspectives and new information. In other words, a filter bubble refers to the intellectual isolation created when websites selectively present information through algorithms that analyze data such as users' clicking habits, browsing and search history, and location. In this case, users are only exposed to content that aligns with their interests and previous preferences, significantly reducing the likelihood of encountering differing opinions and alternative information (Pariser, 2011 cited in Boyacı Yıldırım & Özgen, 2024:511).

are more likely to produce manipulative outcomes. In practice, when data is processed, attention is drawn to the Personal Data Protection Law.

4. The Effects of Algorithmic Manipulation on Consumer Behavior

Businesses aim to influence consumers' decision-making processes in favor of their products or services by utilizing various stimuli and communication techniques (Yurtsever & Akın, 2022:257). To achieve this, they intentionally implement various strategies to capture consumers' attention and enhance their loyalty. However, at a certain point, these strategies go beyond merely persuading the consumer and start to subtly and covertly direct their behavior, essentially manipulating them (Reuille-Dupont, 2023:17). For instance, the smell of bread in a supermarket evokes positive associations and encourages consumers to purchase, or the use of the color green creates the perception that a product is environmentally friendly, both serving as concrete examples of this phenomenon (Akgün, 2021:271).

The field of marketing has always been an unexplored aspect of the economic system, and each year, marketing techniques and marketing itself evolve in parallel with new technologies. (Vukasović & Ljubičić, 2022:103). With the expansion of marketing, the area of manipulation, which now has many subheadings and subcategories, is also growing. Consumers' right to make free choices is a fundamental source of motivation that shapes their behavior. However, even when consumers are independent of external influences, they may not have full control over the outcomes of their decisions (Wertenbroch et al., 2020:430-431). According to a study, an algorithm created by analyzing data on a consumer's shopping receipt reveals that consumers who buy chips often purchase cola as well. Based on this information, store management may aim to increase sales by placing the chips and cola shelves next to each other to optimize sales strategies (Arıcan Kaygusuz, 2023:534).

Businesses continually focus on consumers' needs and, in order to attract them, may resort to exploiting their thoughts and desires or creating marketing strategies with deceptive guidance (Yurtsever, 2023:52). Marketing strategies aim to shape consumers' perceptions and guide their purchasing decisions, sometimes incorporating elements of conscious manipulation. Specifically, the unconscious direction of consumers toward certain preferences makes the role of manipulation in marketing processes a subject of debate.

It is stated that the information obtained about consumer behavior can be used not only to understand the consumer and shape production processes based on their needs, but also to manipulate the consumer. This information can be used to consciously or unconsciously influence consumers' purchasing decisions in favor of the business (Strang, 2014:248-249). A business can influence the consumer's decision-making process with covert and targeted strategies, often in its own interest. In this case, although the consumer may think they are making decisions freely, the majority of these decisions are actually shaped within the framework pre-determined by the organization (Witte, 2024:3-4). The consumer, unaware of the manipulation, may believe they are making an independent choice, but in reality, these decisions have been directed through manipulative methods (Vukasović & Ljubičić, 2022:103).

The primary goal of manipulations is to prevent consumers from making conscious and rational decisions, encouraging them to purchase a particular product or service through automatic responses or emotional influences. This allows businesses to gain control over consumer behavior. The strategies used in these types of manipulations generally involve emotional, psychological, and behavioral tactics aimed at influencing consumers' decision-making processes without their awareness (Susser et al., 2019:1). Baron (2003) categorizes manipulation into three main categories: deception, coercion, and strategies based on emotions, emotional needs, or character weaknesses (Baron, 2003, cited in Witte, 2024:3-4). Similarly, Michalak and Stypi□ski (2023:203) emphasize in their research that manipulation, particularly based on influencing emotions, has a significant impact on consumer decisions.

One of the new dimensions that manipulation has gained with digitalization is algorithmic manipulation, especially conducted through algorithms (Vangeli, 2023:13). Digital marketers can influence consumer decisions through algorithms and direct these decisions in a way that creates the illusion that consumer autonomy is preserved and they are making their own choices. In this case, while consumers are made to feel that they have more control and freedom, in reality, their behaviors and choices are predetermined and directed by algorithms (Wertenbroch et al., 2020: 430-431). These algorithms used on digital platforms strategically filter and organize the content individuals are exposed to, thereby shaping their preferences and behaviors in a specific direction (Vangeli, 2023:13).

Algorithms provide a significant advantage for businesses in analyzing consumer behavior. By processing big data analytics quickly and efficiently, they determine consumer preferences, habits, and needs, thereby helping

businesses develop strategies that better meet customer expectations. Additionally, algorithms optimize business processes, increase efficiency, and accelerate decision-making processes. In this regard, algorithms become a core component of consumer-focused applications and innovative business models (Karaman, 2021:1341). Furthermore, on e-commerce platforms, algorithms offer personalized product recommendations based on users' past purchasing behavior and habits, while on social media platforms, they suggest content based on viewing habits (Arıcan Kaygusuz, 2023:534). Moreover, businesses aim to increase consumer engagement and gain an economic advantage over competitors by pre-designing consumer interactions. These strategies increasingly blur the line between persuasion and manipulation. In the process of directing consumers toward specific decisions and behaviors, algorithmic manipulations are used by analyzing their preferences and habits (Özuz Dağdelen, 2024:35). To reduce the excessive burden of options that consumers face when making choices, businesses use recommendation algorithms and targeting methods. These algorithms can enhance perceived autonomy by making it easier for consumers to find the products and information they prefer. However, at the same time, these systems can expose consumers to more external influences during their decision-making process, which may weaken their real autonomy. This creates a paradox between perceived autonomy and real autonomy (Wertenbroch et al., 2020: 432). Although digitalization is said to make consumer behavior more independent and faster, granting greater autonomy in decision-making processes (Şen, 2024:18), the ability to influence consumers through digital manipulation techniques can violate this autonomy and hinder their decision-making processes with their free will (Susser et al., 2019:8). Thus, while the algorithms underlying digitalization provide consumers with more information, they also have the power to shape their decision-making processes through hidden influences.

The intervention of algorithms can weaken consumers' ability to make independent choices and may turn them into a part of a strategic manipulation aimed at keeping them on the platform for longer periods. This leads to an unconscious impact on the consumer's autonomy[6] (Wertenbroch et al., 2020: 432). For example, false reviews and ratings can create a misleading impression about the quality of a product or service. Comments such as

6 Consumer autonomy refers to an individual's ability to remain independent from external pressures, particularly from excessive influence or manipulation by marketers, during the purchasing or decision-making process. In this context, it means that consumers can make their decisions solely based on their own information and will, without external imposition or control (Drumwright, 2016 cited in Bjørlo, 2021:2).

"*Amazing! The product exceeded my expectations, you must buy it!*" may be used to portray a product as being of higher quality than it actually is, even though the reviews are fake. All of these strategies can disrupt consumers' more conscious decision-making processes and manipulate their behaviors. These types of manipulations can have negative effects, especially on consumer autonomy (Susser et al., 2019:1).

Consumers may share small amounts of personal data in order to gain autonomy. For example, when users conduct a Google search to obtain useful information, they share their data in exchange for information. However, these small-scale data-sharing actions can lead to a larger flow of data and manipulation over time. As a result, consumers may unknowingly lose their autonomy. This situation is often likened to the famous "frog in boiling water" story (Wertenbroch et al., 2020: 432). For instance, when a consumer buys a shirt from an e-commerce site, the website's algorithm may suggest similar clothing or complementary products. While this may appear to be a recommendation system based on the consumer's preferences, over time, the system may lead the user towards specific products, potentially causing manipulations that lead to impulsive shopping decisions (Çalapkulu & Buran, 2023:142).

In today's society, many systems that are part of consumers' social lives (such as online shopping, search engines, and navigation apps) operate through algorithms (Striphas, 2015, cited in Witzenberger, 2017: 17). Through social media platforms, individuals can benefit from consumer-oriented positive contributions such as information sharing, participation in public discussions (Vangeli, 2023: 2), access to entertainment, socializing, and freedom of expression. These platforms, while having functions such as raising social awareness, organizing awareness campaigns, and strengthening interpersonal bonds, can also provide a space for the spread of disinformation campaigns and manipulative content (Yılmaz, 2024: 3; Tekke & Lale, 2021: 56). Deepfake technology can be used to manipulate faces with high realism. Nowadays, there are numerous deepfake videos created, particularly targeting celebrities and politicians, circulating on the internet. These videos are often used to damage the reputations of celebrities or to manipulate public opinion, posing a serious threat to social stability (Yu et al., 2021: 607).

Social media algorithms provide businesses with valuable data about consumers, enabling them to gain insights and improve user experience (Saurwein & Spencer-Smith, 2021: 225). While they offer users an environment where they can move freely and select and view the content

they desire, they can also have negative effects that raise societal concerns. One of the primary negative impacts is the potential for algorithms to create an infrastructure that encourages harmful behaviors (Saurwein & Spencer-Smith, 2021: 225). Social media applications use various strategies through algorithms to keep users on the platform for longer periods. This can weaken individuals' perception of making free choices and lead them to display behaviors that are unconsciously guided, or in other words, manipulated (Wertenbroch et al., 2020: 432). For example, after viewing a brand's page on Instagram, the consumer may be shown advertisements for similar brands, businesses, and products, which are facilitated by algorithms within the platform (Çalapkulu & Buran, 2023: 142). Facebook uses data and algorithms to determine whether users belong to ethnic minority groups and serves them targeted advertisements specific to those groups (Saurwein & Spencer-Smith, 2021: 227). During the 2016 U.S. Presidential election, the Trump campaign used Facebook ads to specifically target African American voters (Green & Issenberg, 2016: 1). In this context, algorithms, particularly through online advertising, can also lay the groundwork for discriminatory practices. Algorithms are used as an infrastructure to target or exclude certain user groups, which can lead to various harmful effects (Saurwein & Spencer-Smith, 2021: 227).

The widespread adoption of new digital and online sociotechnical systems, such as artificial intelligence-based social media, micro-targeted advertising[7], and personalized search algorithms, has led to significant changes in the ways user interactions, data collection, and behavior influence are conducted. However, because these technologies and techniques have the capacity to target and influence individuals on an unprecedented scale, in a more sophisticated, automated, and pervasive manner, they raise concerns about their manipulation potential and spark various debates (Ienca, 2023: 833). As a person continues to use a social media platform like Instagram, the platform collects more data about the user's online habits. This data is recorded, classified, and analyzed, creating a personalized mental model of the user (Jago, 2022: 159). This model allows for the delivery of personalized content and advertisements based on the user's interests, interaction patterns, and behavior.

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7 Micro-Targeted Advertising: A technique used by advertisers to deliver personalized and highly targeted messages to specific individuals or groups based on demographic, behavioral, or psychographic characteristics. This technique involves collecting and analyzing large amounts of data from various sources, such as social media platforms, search engines, and third-party data providers, and using this data to create highly customized advertising campaigns (Ienca, 2023: 839).

Through algorithms and personalization techniques, platforms such as YouTube, Netflix, and Instagram recommend similar content as users watch videos they like (Susser et al., 2019:1). Although features like Instagram's Reels, TikTok's Explore, and YouTube's Shorts claim to offer users the opportunity to choose the videos they want, the majority of this content is directed by the platforms' algorithms. While users may think they are making free choices, the algorithms present content based on their interests and previous interactions, thereby guiding their attention to certain videos. This situation creates an illusion of freedom, while users are actually exposed to a content flow determined by the platforms (Wertenbroch et al., 2020:432).

Bjørlo (2021:15) argues that the weakening of consumer autonomy hinders individuals' ability to make decisions freely, and that this has negative effects on consumer welfare and social sustainability. In this context, it is also significant that manipulation conducted through artificial intelligence and related digital technologies is qualitatively no different from manipulation through human-to-human interactions in the physical world, and can violate certain fundamental freedoms or rights concerning the individual's mind and thoughts (Ienca, 2023:833).

Conclusion and Recommendations

Businesses view being strong and effective as a key strategy to increase consumption rates and direct consumers to their own brands. Digital channels play a critical role in providing access to and interaction with consumers, while the data collected from these platforms enable the development of personalized marketing strategies. Technological advancements offer the potential to enhance consumer experiences in conjunction with marketing activities. However, marketing strategies implemented on digital platforms do not always remain within ethical boundaries. Manipulative techniques, which risk directing or misleading consumer behavior, lead to ethical debates.

In digital environments, algorithms are among the key elements that guide consumers and increase consumption behavior. The data collection and processing capabilities of digital platforms make algorithmic manipulation an important tool in marketing strategies. While algorithms shape consumer behavior through targeted product or service presentation, they can also pave the way for unethical practices. The impact of AI-powered algorithms on marketing is increasing, but this impact does not always have a positive outcome and carries the risk of undermining consumer autonomy. Particularly, AI-based manipulation techniques promote unconscious consumption decisions, raising serious ethical concerns.

In the future, as marketing practices based on algorithms become more widespread, this will require stricter and normative regulations regarding ethical use. In this context, regulations play a crucial role in protecting consumer rights and keeping businesses within ethical boundaries. At the same time, it is important for consumers to recognize the algorithmic manipulations they encounter in digital environments and make conscious decisions. Consumer awareness and education should accelerate in parallel with the rise of digital manipulation. This study, which could guide future research, offers several suggestions to the literature:

- Studies should be conducted to examine the effectiveness of educational programs aimed at increasing consumer awareness of algorithmic manipulation. The role of digital literacy in combating manipulation should be addressed in detail.

- Research should focus on examining the impact of algorithmic manipulation on consumer autonomy. Particularly, studies that define ethical boundaries and evaluate whether these boundaries are violated are of significant importance.

- The use of AI-based algorithms in marketing processes, how they shape ethical boundaries, and their long-term effects on consumer autonomy should be investigated.

- Research on the effects of global and local regulations aimed at setting ethical standards in digital marketing practices and limiting algorithmic manipulation should be increased.

- Studies should be conducted to examine the effects of algorithmic manipulation used on social media platforms on consumer behavior.

References

Albers, N., Neerincx, M. A., & Brinkman, W. P. (2022). Addressing People's Current And Future States In A Reinforcement Learning Algorithm For Persuading To Quit Smoking And To Be Physically Active. *Plos One*, 17(12).1-31.

Altuncu, D., Çelebi Şeker, N. N., & Karaoğlu, M. (2013). Mekan Algısında Duyuların Etkisi/Manipülatif Mekanlar. *Sanat Tasarım ve Manipülasyon Sempozyum Bildiri Kitabı İçinde, Sakarya Üniversitesi, Sakarya*, 115-119.

Akgün, A.A. (2021). *Tutundurma Dışındaki Pazarlama Karması Unsurları Bağlamında Pazarlama İletişimi ve Manipülasyon*. (Ed. Osman Çalışkan). Çarpıtılmış Gerçekliğin İnşası Cilt 1 Medya Ve İletişim Mesleklerinde Manipülasyon. Nobel Yayınları. Ankara.

Altun, C. (2018). Okul Öncesi Öğretim Programına Algoritma Ve Kodlama Eğitimi Entegrasyonunun Öğrencilerin Problem Çözme Becerisine Etkisi. *Yayınlanmamış Yüksek Lisans Tezi*. Eğitim bilimleri Enstitüsü. Ankara Üniversitesi

Arıcan Kaygusuz, N. (2023). Nöropazarlama ve Yapay Zekâ İlişkisinin Tüketici Davranışları Üzerindeki Etkisine Yönelik Kavramsal Bir Model Önerisi. *Journal of Academic Social Science Studies*, 16(95).527-547.

Atan, A. Uçan, B. & Renkçi, T. (2013) Çağdaş Sanat Ve Tasarımda Manipülasyon Etkileri. Sakarya Üniversitesi Güzel Sanatlar Fakültesi 1. *Uluslararası Sanat Sempozyumu Sanat, Tasarım ve Manipülasyon Sempozyumu Bildiri Kitabı*.

Bastos, M. (2024). *Social Media Manipulation*. In Brexit, Tweeted. Bristol University Press. 104-114.

Begtimur, M.E. (2022). Oyunun Adı: Manipülasyon. (Ed. Cihad İslam Yılmaz). Psikolojik Harp, Post-Truth ve Stratejik İletişim. *NEU Press*.Konya.

Bjørlo, L., Moen, Ø., & Pasquine, M. (2021). The Role Of Consumer Autonomy In Developing Sustainable AI: A Conceptual Framework. *Sustainability*, *13*(4).

Boldyreva, E. L., Grishina, N. Y., Duisembina, Y., L Boldyreva, E., & Y Grishina, N. (2018). Cambridge Analytica: Ethics And Online Manipulation With Decision-Making Process. European Proceedings of Social and Behavioural Sciences, 51.

Botes, M. (2023). Autonomy And The Social Dilemma Of Online Manipulative Behavior. *AI and Ethics*, 3(1), 315-323.

Boyacı Yıldırım, M., & Özgen, E. (2024). Dijitalleşme Ekseninde İnfodemi Ve Bilgi Düzensizlikleri. *Akademik Hassasiyetler*, *12*(25), 500-529.

Calo, R. (2013). Digital Market Manipulation. Geo. Wash. L. *Rev*., 82, 995.

Chaudhuri, A. B. (2020). *Flowchart And Algorithm Basics: The Art Of Programming*. Mercury Learning and Information. New Delhi.

Chouaki, S., Bouzenia, I., Goga, O., & Roussillon, B. (2022). Exploring the online micro-targeting practices of small, medium, and large businesses. *Proceedings of the ACM on Human-Computer Interaction*, 6(CSCW2), 1-23.

Christiano, T. (2022). Algorithms, Manipulation and Democracy. *Canadian Journal Of Philosophy*, *52*(1), 109-124.

Cormen, T. H., Leiserson, C. E., Rivest, R. L., & Stein, C. (2009). *Introduction To Algorithms,* Third Edition. The MIT Press

Coşkun Keskin, S., Karaloğlu, İ., & Erdoğan, H. (2023). Harezmi Eğitim Modeli'nin Uygulayıcıları Olan Öğretmenlerin Görüşleri Doğrultusunda İncelenmesi. *Ondokuz Mayis University Journal of Education Faculty,* 43(1), 121-140.

Çalapkulu, Ç., & Buran, N. (2023). Dijital Pazarlama Bileşenlerinde Duygusal Zeka Ve Big Datanın Önemi. *İstanbul Ticaret Üniversitesi Girişimcilik Dergisi*. 7(13). 138-154.

Çaycı, A. E. (2021). Sosyal Medya Platformlarının Kamusal Tartışmalardaki Rolü: Filtre Balonu Ve Yankı Odası. Asead 7. Uluslararası Sosyal Bilimler Sempozyumu Ejser 7th International Symposium On Social Sciences 10-12 nisan/april 2021 kemer – antalya. https://www.researchgate.net/profile/merve-gezen-3/publication/365520187_asead_7_uluslararası_sosyal_bılımler_sempozyumu/links/6377d78854eb5f547ce30206/asead-7-uluslararası-sosyal-bılımler-sempozyumu.pdf#page=922

Elitaş, T. (2022). Dijital Manipülasyon 'Deepfake'teknolojisi Ve Olmayanın İnandırıcılığı. *Hatay Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, *19*(49), 113-128.

Erdoğan, Z. & Gürbüz, E. (2023). Enflasyon Dönemlerinde Pazarlama Karması Uygulamalarını Etkileyen Küçültme Enflasyonu (Shrinkflation) Ve Nitelik Kaybı Enflasyonu (Skimpflation) Stratejileri. *Journal of Politics Economy and Management*, 6(2), 1-20.

Ergül Güvendi, N. (2023). *Manipülasyon Panoraması*. (Ed.Enis Baha Biçer, Orhan ŞANLI). Sosyal, İnsan ve İdari Bilimlerde Güncel Yaklaşımlar. Duvar Yayınları. İzmir.

Eryılmaz, H.(1999). Bir Kitle İletişim Aracı Olarak Haber Fotoğrafı ve Manipülasyon, *Yayınlanmamış Doktora Tezi*, Eskişehir, Anadolu Üniversitesi Sosyal Bilimler Enstitüsü Basım ve Yayımcılık Anabilim Dalı.

Fırat, N. S. (2008). Savaş Fotoğraflarının Kullanımı Bağlamında Propaganda ve Manipülasyon. Marmara Üniversitesi Güzel Sanatlar Enstitüsü, *Yüksek Lisans Tezi*, İstanbul

Finn, E. (2017). *What Algorithms Want: Imagination In The Age Of Computing*. 7 Massachusetts Institute of Technology. Campridge.

Fletcher, G. G. S. (2021). Deterring algorithmic manipulation. *Vand. L. Rev.*, *74*, 259.

Fu, H., & Sun, Y. (2024). Unravelling the algorithm manipulation behavior of social media users: A configurational perspective. In Li, E.Y. et al. (Eds.) Proceedings of The International Conference on Electronic Business, 24. 536-550.

Green, J., & Issenberg, S. (2016, October 26). Why the Trump machine is built to last beyond the election. Bloomberg. https://www.bloomberg.com/ news/ articles/2016-10-27/inside-the-trump-bunker-with-12-days-to-go

Greiss, D. (2021). Addressing Digital Market Manipulation In Australian Law. ANU Journal of Law and Technology, 2(2), 23-55.

Ienca, M. (2023). On Artificial İntelligence And Manipulation. Topoi, 42(3), 833-842.

Isinkaye, F. O., Folajimi, Y. O., & Ojokoh, B. A. (2015). Recommendation Systems: Principles, Methods And Evaluation. *Egyptian İnformatics Journal*, 16(3), 261-273.

Jago, E. (2022). Algorithmic Manipulation: How Social Media is Shaping our Theology. *Eleutheria: John W. Rawlings School of Divinity Academic Journal*, *6*(1), 9.

Jiaying, L & Lasi, M.A. (2023). Marketing Manipulatıon: A Literature Review Of Its Antecedents, Mechanisms, Outcomes, And Moderators. International Journal Of Advances Research in Islamic Studies and Education Arise. 3(4). 69-81.

Karaman, Ö. (2021). Yapay Zekâ Destekli Kişiselleştirme Algoritmalarının Tüketici Zihninde Filtre Balonu Yaratma Etkisinin İncelenmesi. Süleyman Demirel Üniversitesi Vizyoner Dergisi, 12(32), 1339-1351.

Karaöz Akın, B., & Gürsoy, Şimşek, U.T. (2018). Adaptif öğrenme sözlüğü temelli duygu analiz algoritması önerisi. *Bilişim Teknolojileri Dergisi*, 11(3), 245-253.

Kayıhan, B., Narin, B., Fırat, D., & Fırat, F. (2021). Algoritmalar, Yapay Zekâ Ve Makine Öğrenimi Ekseninde Gazetecilik Etiği: Uluslararası Akademik Dergilere Yönelik bir inceleme. *TRT Akademi*, *6*(12), 296-327.

Kitchin, R. (2019). Thinking Critically About And Researching Algorithms. In *The social power of algorithms.* Routledge. 14-29.

Li, X., & Li, K. J. (2023). Beating The Algorithm: Consumer Manipulation, Personalized Pricing, And Big Data Management. *Manufacturing & Service Operations Management*, 25(1), 36-49.

Li, W., Bao, L., Chen, J., Grundy, J., Xia, X., & Yang, X. (2024). Market Manipulation Of Cryptocurrencies: Evidence From Social Media And Transaction Data. *ACM Transactions on Internet Technology*, 24(2), 1-26.

Ljubičić, K., & Vukasović, T. (2023). Manipulation In The World Of Marketing. Mednarodno Inovativno Poslovanje. *Journal Of Innovative Business And Management*, 15(1), 1-11.

Lodziak, C. (2003). Kapitalizm ve Kültür, İhtiyaçların Manipülasyonu. (Translator: Berna Kurt), Çitlembik Yayınevi, İstanbul.

Maathuis, C., & Kerkhof, I. (2023). Social Media Manipulation Awareness Through Deep Learning Based Disinformation Generation. *In International Conference on Cyber Warfare and Security*. 18(1). 227-236).

Maathuis, C., & Godschalk, R. (2023). Social Media Manipulation Deep Learning based Disinformation Detection. In International Conference on Cyber Warfare and Security 18 (1). 237-245.

McKee, P. C., Senthilnathan, I., Budnick, C. J., Bind, M. A., Antonios, I., & Sinnott-Armstrong, W. (2024). Fear of Missing Out's (FoMO) Relationship With Moral Judgment And Behavior. *PloS one*, 19(11).

Michalak, J., & Stypiński, M. (2023). Methods of Manipulation Used in Advertising. *Olsztyn Economic Journal*, 18(2), 195-206.

Miyazaki, S. (2012). Algorhythmics: Understanding Micro-Temporality In Computational Cultures. Computational Culture http://computationalculture.net/algorhythmics-understanding-micro-temporality-in-computational-cultures/

Mucundorfeanu, M., Balaban, D. C., & Mauer, M. (2024). Exploring The Effectiveness Of Digital Manipulation Disclosures For Instagram Posts On Source Credibility And Authenticity Of Social Media Influencers. *International Journal of Advertising*, 1-31.

Özuz Dağdelen, E. (2024). *Sosyolojik Bakış Açısıyla Veri Bilimcilerin Gözünden Veri İhlali ve Veri Manipülasyonu Ayrımı*. Sosyolojinin Geleceği ve Geleceğin Sosyolojisi II. Ulusal Kongre Genişletilmiş Özet Bildiri Kitapçığı Taslağı, 31-36.

Önder, D. (8 Şubat 2024). Algoritmalar ve Akış Diyagramı. Medium.com. https://medium.com/@onderrdogukan/algori%CC%87tmalar-ve-aki%C5%9F-di%CC%87yagrami-79229f88183d Access Date: 20.11.2024

Özkök, Ö. (2019). *Sosyal Medyada Sanal Kimlikler; Sosyal Medya Fenomenlerinin Benlik Sunumları Üzerine Bir Araştırma*. Yüksek Lisans Tezi. İstanbul Kültür Üniversitesi, Eğitim Enstitüsü.İstanbul.

Putniņš, T. J. (2012). Market Manipulation: A Survey. *Journal Of Economic Surveys*, 26(5), 952-967.

Reaves, S., Bush Hitchon, J., Park, S. Y., & Woong Yun, G. (2004). If Looks Could Kill: Digital Manipulation Of Fashion Models. *Journal of Mass Media Ethics,* 19(1), 56-71.

Reuille-Dupont, J.C. (2023). The Power of Algorithms and Big Data: A Marketing Perspective on Consumer Manipulation in Business. *Portland State University*. https://pdxscholar.library.pdx.edu/cgi/viewcontent.cgi?article=2540&context=honorstheses

Rickert, T. J. (2024). Ambient Engineering: Hyper-Nudging, Hyper-Relevance, and Rhetorics of Nearness and Farness in a Post-AI Algorithmic World. Rhetoric Society Quarterly, 54(5), 413-430.

Rohach, O. & Rohach, I. (2021). Manipulation and Persuasion in Business Advertising. *Research Trends in Modern Linguistics and Literature*, 4, 47-61.

Saurwein, F., & Spencer-Smith, C. (2021). Automated Trouble: The Role Of Algorithmic Selection İn Harms On Social Media Platforms. *Media and Communication*, *9*(4), 222-233.

Sayılı, A. & Dosay, M. (1991). Hârezmi ile Abdülham id İbn Türk ve Orta Asya'nın Bilim ve Kültür Tarihindeki Yeri. *Erdem Dergisi.* 7(19). 101-214.

Senemoğlu, O. (2017). Tüketim, Tüketim Toplumu Ve Tüketim Kültürü: Karşılaştırmalı Bir Analiz. *İnsan Ve İnsan,* 4(12), 66-86.

Shekhar, H. Seal, S., Kedia, S. & Guha, A. (2018). *Survey on Applications of Machine Learning in the Field of Computer Vision.* (Ed. Jyotsna Kumar Mandar ve Debika Bhattacharya). Emerging Technology in Modelling and Graphics. Springer. 667-678.

Singh, V., Vishvakarma, N. K., & Kumar, V. (2024). Unveiling Digital Manipulation And Persuasion İn E-Commerce: A Systematic Literature Review Of Dark Patterns And Digital Nudging. *Journal Of Internet Commerce*, 23(2), 144-171.

Strang, W. A., Lusch, R. F. & Laczniak, G. R. (2014). *Consumer Manipulation: Are Marke ters Building A Monster?. Venkatakrishna.* (Ed. V. Bellur). Proceedings of the 1980 Academy of Marketing Science. (AMS) Annual Conference içinde USA: Springer. 248-253.

Susser, D., Roessler, B., & Nissenbaum, H. (2019). Technology, Autonomy, And Manipulation. *Internet Policy Review*, 8(2).1-22.

Susser, D., Roessler, B., & Nissenbaum, H. (2019a). Online Manipulation: Hidden İnfluences İn A Digital World. *Geo. L. Tech. Rev.,* 4(1).

Şen, B. (2024). Pandemi Döneminde Dijitalleşmenin Tüketici Davranışlarına ve E-Ticaret Stratejilerine Etkisi. *Tokat Gaziosmanpaşa Üniversitesi Turhal Uygulamalı Bilimler Fakültesi Dergisi*, 2(2), 11-20.

Tan, P. L., Tjiptono, F., & Tan, S. Z. (2024). Fear More Or Fear No More: Examining The Emotional And Behavioral Consequences Of FOMO And JOMO. *Asia Pacific Journal of Marketing and Logistics.*1-22.

Tekke, A., & Lale, A. (2021). Sosyal Medyada Etik, Bilgi Manipülasyonu ve Siber Güvenlik. Akademik İncelemeler Dergisi, 16(2), 44-62.

Yılmaz, Y., & Tatoğlu, M. F. (2024). Televizyon Programlarında İzleyici İhtiyaçlarının Manipülasyonu: MasterChef Türkiye Analizi. Kocaeli Üniversitesi *İletişim Fakültesi Araştırma Dergisi*, (24), 61-79.

Yu, P., Xia, Z., Fei, J., & Lu, Y. (2021). A Survey On Deepfake Video Detection. *Iet Biometrics*, 10(6), 607-624.

Yurtsever, A.E. (2023). Manipülatif Pazarlamanın Z Kuşağının Davranışsal Niyetleri Ve Tüketim Alışkanlıklarına Etkileri. (Ed. Murat Akın). İSAD Publising House. https://dx.doi.org/10.5281/zenodo.8250397

Yurtsever, A. E., & Murat, A. (2022). Cep Telefonu Şirketlerinin Kullandıkları Manipülatif Satış Tekniklerinin Z Kuşağındaki Tüketicilerin Davanışsal Niyetleri Ve Tüketim Alışkanlıkları Üzerindeki Etkisi. Social Science Development Journal (Ssd Journal), 7(33), 257-283.

Quinelato, P. D. (2024). Consumer Manipulation Through Behavioral Advertising: Regulatory Proposal By The Data Services Act. Brazilian Journal of Law, *Technology and Innovation,* 2(1), 1-24.

Wertenbroch, K., Schrift, R. Y., Alba, J. W., Barasch, A., Bhattacharjee, A., Giesler, M., & Zwebner, Y. (2020). Autonomy İn Consumer Choice. *Marketing letters*, *31*, 429-439.

Wikipedia.org. Algortima. https://tr.wikipedia.org/wiki/Algoritma Access Date: 03.01.2025

Witte, J. (2024). Consumer Manipulation–A Definition, Classification And Future Research Agenda. Journal Of Information, Communication and Ethics in Society. doi/10.1108/JICES-09-2023-0119

Witzenberger, K.(2017). What Users Do to Algorithms. *Media and Communication Studies, Lund University*

https://www.kom.lu.se/fileadmin/user_upload/kom/Filer/PDF/MKV/FEA-rapporter/Web_version_RR_2017_1_2_.pdf#page=19

Vangeli, M. (2023). The Philosophy of Algorithmic Manipulation: Unveiling the Influence of Social Media Algorithms. Uppsala University, Disciplinary Domain of Humanities and Social Sciences, Faculty of Arts, Department of Philosophy. https://www.diva-portal.org/smash/get/diva2:1770486/FULLTEXT01.pdf Erişim Tarihi:04.01.2024

Vukasović, T., & Ljubičić, K. (2022). *Marketing Manipulation in the 21st Century*. In 5 th International Scientific Conference ITEMA 2021–Conference Proceedings.