

The Threat of Consumer Autonomy under Personalised Recommendations

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Abstract.

The twenty-first century is the century of digital technology. Algorithms, big data monitoring, and other technologies are widely applied to the business sector, creating a new business model of surveillance capitalism. This business model is mainly characterized by personalized recommendations, which collect, analyze, and predict consumer preferences to customize advertisements for targeted consumers, guiding and shaping their consumption decisions for profit. Based on existing literature, this paper analyses the impact of personalized recommendations on consumer decision-making in the business model, intending to explore the threat of consumer autonomy under surveillance capitalism. The paper argues that personalized recommendations have a covert intervention in consumers' decision-making and reflexivity: they deprive consumers of the opportunity to make changes to their personalities and reinforce their inherent preferences. Personalized recommendations also result in discrimination against vulnerable groups and differential pricing, influencing people without their knowledge. In addition, personalized recommendations threaten consumer autonomy by weakening their ability to reflect. To safeguard consumer autonomy, people should take the initiative to improve their digital literacy, reflect on the ideology of instrumental rationality, and actively participate in platform interactions.

Keywords: Surveillance capitalism; algorithms; personalised recommendations; customer autonomy; consumer decision-making

1. Introduction

Entering the era of digital technology, algorithms have developed into a new type of technological power based on massive data computing to allocate social resources and influence human behavior [1]. The application of digital technologies such as algorithms and big data surveillance to the commercial field has given rise to a new economic form, namely surveillance capitalism [2], in which platforms and merchants can use algorithms and data surveillance technologies to conduct comprehensive commercial surveillance of users so that people's private experiences are converted into market profits [3]. The application of algorithmic technology to the commercial field makes it possible to collect and analyze user data on a large scale and outline user profiles, which platforms and merchants use to predict and adjust human consumption behaviors, thereby profoundly interfering with, guiding, and shaping people's consumption preferences [1]. In this sense, the universal surveillance of people's behavior by algorithms has expanded the power of algorithms, profoundly affecting human consumption behavior. The ability of people to make free choices and decisions has been increasingly dominated by algorithms, which has threatened consumers' subjectivity and autonomy [4].

With the rapid development of digital technology and surveillance capitalism, maintaining consumer self-

awareness and autonomy in the game with algorithms has become an important issue. In previous studies on consumer autonomy, scholars have mainly analyzed how consumerist ideology interferes with consumer autonomy from the perspective of consumer alienation [5]. Some scholars have studied how digital technology enhances or diminishes consumer decision-making and well-being [6]. In contrast, others have explored the contradiction between consumer empowerment and manipulating consumer decision-making in digital marketing [7]. However, there is still insufficient discussion of consumer autonomy under the new business model of surveillance capitalism characterized by personalized recommendations, and further research is needed on how human consumption behavior is disciplined by capital and digital technologies and to what extent consumer autonomy is threatened.

Therefore, this paper intends to analyze how big data and algorithmic power affect consumers through personalized recommendations, interfering with consumers' decision-making and reflective abilities and thus weakening their autonomy, based on theories and existing literature. In the end, solutions for consumers to assert their autonomy are suggested to help people fully see the aspects of digital technology that form a riposte that counters people so that they can consciously and actively reflect on digital technology to make better use of information technology, truly become the master of technology, and use digital

technology to improve their lives.

2. Business Models under Surveillance Capitalism

Stepping into the twenty-first century, due to the mutual promotion and development of the information revolution, globalization, and digitalization, as well as the need for technological solutions to the economic recession and social crisis, contemporary capitalism has seen a new change in digital capitalism [8]. In the past decade, under the joint effect of digital technologies, such as the Internet, cloud computing, algorithms, and mobile terminals, digital capitalism has entered a stage of high-speed development, and a new pattern of Surveillance Capitalism has emerged. Unlike traditional digital technologies such as computer networks, new digital technologies, such as algorithms and big data, have brought about the reorganization of space-time so that capital has realized the intelligent monitoring and measurement of human production and life with the help of platforms and technologies, and formed new digital monopoly giants represented by Apple, Microsoft, Google, Amazon, and Facebook, etc. [9]. The development of digital capitalism has given rise to a new order of economic structure, where capital uses the Internet platform to form a digital monopoly, transforming extracted user information into data capital as a new strategy to achieve capital accumulation [8]. With the fuel of the advance of digital technologies and online platforms, a new business model has emerged, summarised by Shoshana Zuboff as surveillance capitalism. According to Zuboff, surveillance capitalism, which arose from Google and Facebook, has its new logic of capital accumulation; surveillance capitalism advocates transforming private human experience into commodities to be cast into exciting market life [10]. The fan claims that surveillance capitalism operates on extraction, manufacture, and commercialization logic. Surveillance capitalism mines „behavioral surplus“ from users' activities and experiences on the platform, feeds it into algorithms to produce „predictive products,“ and then transforms „predictive production“ into a „behavioral futures market“ [11]. Under the surveillance capitalist business model, to receive „free services“ from online platforms, users often agree to monitor and extract their data by platforms and businesses [12], which allows their digital footprints to be exposed to the surveillance of algorithms and platforms on all fronts. By extracting and analyzing users' data, new business models flourish by applying digital technologies such as algorithms and online platforms. The collection and analysis of users' data and personalized recommendations are key elements

of the surveillance capitalist business model, enabling it to continue to create profits and amplify itself.

3. Algorithms and Capital's Encroachment on Human Autonomy

However, while such a business model relies on algorithms and constant big data surveillance for capital accumulation, it has more covert mechanisms of exploiting human autonomy. Surveillance capitalism is based on the usurpation of consumer autonomy, over-nudging, and increasingly radicalized manipulation of consumers [7]. When browsing on platforms, users' data is permanently stored on the platforms. Surveillance capitalism compiles a vast network of surveillance that tracks and collects individual information and behavioral data in order to adjust, predict, shape, and control the user's consumption practices. Surveillance capitalism customizes each user's unique lifestyle under the banner of personalization and participates in altering the consumer's consumption behaviors without them being aware of it. It successfully forms an insidious technological rip-off of the user [13]. The algorithmic platform of the „Internet + smartphone + algorithm“ model shapes the second living space of human beings, creates and stimulates human needs and desires, maximizes the imprisonment of human beings in the trap of consumerism, and further realizes the disciplining of human beings [9]. In the era where everything is data-enabled, the all-encompassing and continuous surveillance of big data and the disciplining technologies generated by the power of algorithms have resulted in the formation of a digital surveillance society, where the individual is trapped in a digital ‚cage,‘ human autonomous decision-making is overly dependent on algorithms, and where the individual's subjectivity and autonomy have been reconstructed as a technologically dependent „tamed individual“ [4].

4. The Crisis of Consumer Autonomy under Personalised Recommendations

Understanding and investigating consumer autonomy has never been more important in the age of surveillance capitalism, as machines and algorithms increasingly interfere with consumer decision-making through covert and complex technological methods. Algorithms and capital exploit human autonomy extensively, leading to the crisis of consumers' autonomy [14]. To discuss how surveillance capitalism affects consumer autonomy, it is necessary to define what is consumer autonomy first. It is believed that autonomy is the ability of an individual to be himself by considerations, desires, characteristics, and other factors that are not all external [15]. Academics

often use the terms „self-determination“ and „free will“ to refer to autonomy and believe that self-determination is a state of exercising one’s autonomy [6]. For consumers, the freedom to choose from a wide range of options (e.g., choosing from several different methods to complete a task) can lead to a sense of autonomy [16], which can give rise to positive emotions and a sense of motivation. Other scholars have argued that interstage or morally conflicting decisions also give consumers autonomy [17]. Thus, autonomy always refers to an individual’s ability to make meaningful and independent decisions [18], and the acquisition of consumer autonomy is closely related to the consumer’s own consumption decisions. Therefore, the exploration of the crisis of consumer autonomy can benefit from the analysis of how personalized recommendations under the surveillance capitalist business model impact consumer autonomy in terms of consumer decision-making.

4.1 Personalised Recommendations and Consumer Decision-Making

Using algorithms for personalized recommendations has become the main way to profit in the surveillance capitalist business model. Personalized recommendations bring convenience to consumers while at the same time backfiring on them. Algorithms calculate a series of goods for consumers that meet their expectations and preferences based on their digital traces and send them to consumers in a targeted manner, which undoubtedly reduces the search cost of consumers and, to a certain extent, helps consumers to reduce the excruciating process of weighing and balancing and bring great convenience to consumers [6]. However, despite the convenience of personalized recommendations, consumers also face a crisis of autonomy, most notably in the impact of personalized recommendations on their decision-making process. According to Susser, online platforms use information technology to manipulate people’s decisions by exploiting loopholes in decision-making processes. This type of manipulation, commonly known as „online manipulation,“ can result in individuals acting towards goals that they did not consciously choose or taking actions for reasons that are not their own. Both outcomes can subsequently affect people’s decision-making abilities and reduce autonomy [18]. This paper examines the erosion of consumer autonomy through two paths, as explored by Susser. It argues that personalized recommendations contribute to this erosion in several ways. Firstly, they deprive consumers of the opportunity to change their personalities and reinforce their old consumption beliefs. In addition, personalized recommendations discriminate against disadvantaged groups and enable differentiated

pricing. These practices achieve a covert interference with human consumption behavior, leading consumers to either purchase goods they did not originally choose or consume them for reasons that are not their own, thereby reducing consumer autonomy. Furthermore, personalized push also infringes on consumers’ decision-making by undermining individuals’ ability to reflect, thus further influencing consumer autonomy.

Firstly, personalized push deprives consumers of the ability to improve their character. Consumers have different desires and consumption motives at different times or psychological conditions and make different judgments in different moral and emotional conditions. However, algorithms can only speculate consumers’ consumption preferences based on their historical consumption records and recommend products to consumers without knowing their emotions, desires, and other motivations, which may induce consumers to repeat their previous behaviors [6]. This has a particular impact on those whose consumption preferences have deviated from the past, as there may be behaviors that they do not wish to repeat, such as someone who used to buy cigarettes regularly and now wishes to quit smoking. Data-driven marketing may deprive consumers of the ability to improve their character and encourage them to repeat choices they no longer wish to make.

Secondly, personalized recommendations reinforce consumers’ previous consumption beliefs and behaviors. It should be clear that personalization technology does not only analyze consumer preferences but also predicts and analyses future behaviors or, more precisely, predicts the likelihood that a particular consumer will be influenced by a particular persuasive strategy [12]. In other words, merchants can guide and regulate consumers’ future consumption behavior through personalized recommendations. Consider that personalization techniques aim to increase the profitability of an online business, not to facilitate consumer decision-making. Analyzing consumer preferences aims to increase commodity transactions and achieve greater business benefits through personalized recommendations. There is every reason for the providers of goods to guide consumers to develop fixed and stable consumption preferences through personalized pushes, reinforcing their pre-existing consumption beliefs and behaviors [19]; personalized pushes may be used to shape more predictable consumption patterns for consumers and to deprive them of their ability to evolve over time or at least reduce the likelihood of their tastes changing fundamentally [6].

Thirdly, personalized recommendations inherently carry the risk of discriminating against vulnerable groups.

This is because personalized recommendations rely on filtering, ranking, and scoring the users. Those with higher scores may be given better deals in these algorithmic rankings. In comparison, those with lower scores are seen as poor prospects and thus systematically excluded from opportunities and benefits [12]. For example, banks may prey on vulnerable groups when using machine learning algorithms to identify and target potential customers, as the algorithm learns that these consumers are unlikely to be profitable for the company. Furthermore, the algorithms may learn to discriminate against certain consumers of a particular ethnicity [6], who are thus systematically deprived of some of their choices and whose personal autonomy is undermined. In addition, there are some disadvantaged groups of people from low education, elderly, or poor people from underdeveloped regions who, due to their lack of knowledge and poor digital literacy, do not comparison shop and actively look for more affordable goods when shopping online, and are therefore more likely to be recognized by the algorithm as consumers who are willing to accept higher pricing in differential pricing and have a greater chance of being treated unfairly [12].

In addition to preying on vulnerable groups, personalized recommendations also contain the threat of price discrimination. In online shopping, not only are the goods consumers see individually customized, but the prices of the goods can also be personalized, which leads to price discrimination [20]. Price discrimination differs from dynamic pricing in that in the latter, merchants adjust their prices every few months or weeks according to the market. In contrast, in the former, merchants can use price monitoring bots to compare competitors' prices and adjust their prices occasionally [21]. The ability to automatically change the posted price for each shopper harms their autonomy since when making decisions in purchasing something, consumers are deprived of the knowledge of what a reasonable price should be and what price others are offering. This interferes with the consumer's weighing of prices, which in turn causes the consumer to consume for purposes other than their own, e.g., the consumer assumes that the price they are purchasing is the item's market price. However, this may be a specially tailored price for the consumer to make more profit [21], and it may not be the same for everyone. Strategies such as these are likely to be manipulative, targeting and exploiting personal decision-making loopholes through digital technology to influence a person's decision-making without realizing it [18], thus undermining their autonomy.

4.2 Personalized Recommendations and the

Weakening of Consumer Reflexivity

Personalized recommendations further influence consumption decisions by undermining consumers' ability to reflect on their consumption mindset and behavior.

Under the great convenience of personalized recommendations, people tend to become overly dependent on personalized recommendations, relying too much on algorithmic decision-making and losing the ability to reflect. Susser argues that the notion of „technological transparency“ can be used to explain the weakening of our ability to reflect. That is to say, when people use electronic devices to consume online, they focus more on the content they browse and consume instead of the digital technology itself, such as algorithms, that make online consumption and personalized recommendations possible. As a result, it is not easy for people to realize what impact these technologies will have on their consumption practices. As AI technology advances, its strategies and tools become more seamless and inconspicuous. As a result, consumers are becoming increasingly accustomed to this practice [18], and their awareness of potential manipulation and their ability to detect threats to their autonomy is diminished [14]. In addition, as personalized recommendations are based on the analysis of massive amounts of user data, which produces results that seem to know more about the user than they do, people are more willing to rely on the authority of algorithms to the extent that there is a situation in which it is impossible to live without them [22]. People's submission to algorithms dominated by technical rationality leads to the idleness of the human mind, which affects their ability to reflect.

Personalized recommendations can also deprive consumers of the ability to reflect on their inherent preferences. The process is drastically simplified as algorithms customize a set of attractive choices for consumers. Consumers often find it easier to make choices without repeatedly searching and comparing products on their own, and the process of weighing different products is dramatically reduced. However, the painful weighing process is an opportunity for consumers to reflect on their own preferences and consumption choices, and the reduction in the weighing process leads to more thoughtless purchases and less reflection on their consumption preferences. People have rapidly accepted algorithms and AI workers due to their convenience and have been given more and more decision-making power in various organizations [18]; people are more and more subjugated to the authority of algorithms and believe that personalized product delivery under algorithmic decision-making is more in line with people's