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The impact and shaping of the notions of value and worth by commercial and personal use of data

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Abstract: *The consumptive digital labor of social media users is an important component of reproduction labor, which promotes a dichotomy between the new relations of production within capitalism and the commodification and sharing of digital goods. This data processing method dominated by commercial forces uses ecology to challenge the established social order and raise new social problems. On the one hand, the application of big data as a core resource for data companies directly affects the survival and development of the companies involved and creates huge economic value for stakeholders and a whole society. On the other hand, while users enjoy the convenience of data, this use of data is often blind and passive: they are drawn into a torrent of data, and their thoughts and behaviors are induced.*

Keywords: *Data; Commercial use; Personal use; Worth and value; Consumerism*

1. Introduction

In the 1950s, European and American countries led by the United States took the lead to enter the "consumer society". The supply of social products exceeds demand. Material products are no longer the accumulation of capital, but continuity and development through people's mass consumption of the commodities it produces. The needs and satisfaction of consumers are both productive forces, and consumption has become the center of social and economic activities. As a result, the control of ideology has shifted from the field of production to the field of consumption. Nowadays, with the advent of the data age, systems such as data analysis, user tracking, and personalized recommendation have well-designed algorithms, and calculate data based on people's reactions to each product to generate user portraits. In addition, the accuracy of the data makes people deeply believe in it and use it to help guide people in making predictions and decisions. Conversely, data has the ability to change and shape people's perceptions of worth and value, because data inherently carries a specific value. This article analyzes how businessmen use data to induce consumer behavior and consumption concepts, explore the traps of consumerism, and help people improve their understanding and judgment of data and consumerism.

2. Market Economy and Consumerism

A market economy is a form of economy in which social resources are allocated through the market. In this form of economy, the market is the place or point of contact where goods or services are exchanged. In this context, the parties engaged in various trading activities are referred to as market agents, who usually participate in the market economy as buyers and sellers (Temin, 2017). In the era of market economy, the standard of living of human beings has improved considerably compared to the previous times and the level of wealth has gradually increased. The accumulation of a certain amount of wealth has given people a greater capacity to consume. Coupled with the fact that the market economy has created more services and products, many people have lost themselves as a result, unable to make sensible choices and judgments about their purchases and limited and controlled by their desire to consume. In the past, consumers bought products for their use value and their consumption behavior would stop once their survival needs were met, but in contemporary times, people are becoming more concerned with the symbolic meaning of products and are using shopping as an expression of their pursuit and enjoyment of a high class, affluent and luxurious lifestyle (McCracken, 1990), which leads to the emergence of consumerism.

Consumerism is the higher rate of consumption of goods. The production and sale of goods determines to a certain extent the development of the country's economy, and the increased purchase of goods by consumers can help to facilitate the promotion of the efficiency and development of businesses

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and ultimately the growth of the country's economy. For this reason, the state introduces consumerist-oriented policies to stimulate people's desire to consume, promote the development and conduct of universal consumption and ultimately create a social culture with consumerism at its core. Under the influence of this culture, goods are replaced so quickly that people no longer decide whether to replace them based on the use and their real needs but are driven by their desire to buy new products straight away (Buskirk and Rothe, 1970). This is the essence of consumerism, i.e., overconsumption. To promote consumer buying behavior, businesses began to refine and target consumer groups in order to set marketing approaches and develop products that were specific to that group and to advertise products in the mass media in order to penetrate the masses (Turow et al., 2015). Furthermore, merchants associate products with concepts such as class, success and taste, which gradually leads consumers to ignore the use value of the product and instead consume it because of the meaning and identity markers attached to the goods (Aaker & Day, 1982; Miles, 1998). Zygmunt Bauman's theory of consumer society reveals the dramatic changes that the development of capitalism has brought to the modern would: as the center of society shifted from production to consumption, people's consumption patterns took on a new state, i.e., consumption became its own driving force, propelling itself against the self. Under the triple action of policy, market and desire, consumption has gradually penetrated and taken over every aspect of people's lives, and consumers have become addicted to it, repeating the act of consumption for the sake of satisfaction and instant pleasure (Beer and Burrows, 2013).

3. Data Technology in the Information Age

3.1 Data and information

In computer science, data is a general term for all symbolic media that can be entered into a computer and processed by a computer program, including numbers, letters, symbols, and analogs that have some meaning (Kitchinn, 2014). The growth of the internet and mobile internet has brought about an explosion of data, and the information and value clues contained in this data have accumulated to become data resources that are used by individuals, institutions, businesses, and science to help make interpretations of problems, phenomena, or environments (Rosenberg, 2013). Information, on the other hand, is an object transmitted and processed by audio, news, and communication systems, and refers broadly to all content transmitted by human society. In the data age, information needs to be digitally transformed into data so that it can be directly recognized and read by computer systems and analyzed. Currently, a large part of the interaction between companies and users takes place in this form, i.e. companies digitize information and enter it into computer systems, while users search and receive data in order to understand and participate in the external environment. This provides the basis for subsequent understanding, thinking and decision-making, and further shapes the user's lifestyle.

3.2 Big Data

Big Data is a term coined in the Internet era, and its use and fervor is growing year on year. Big Data does not refer to the currently familiar information transmitted over the Internet, but rather to the collection of data that cannot be collected, managed, and processed over time by existing software tools. Its important characteristics are reflected in terms of volume, i.e., large quantities; diversity, i.e., the inclusion of unstructured and semi-structured data types; speed, i.e., the ability to process in real time; and value, i.e., low-density value. Cukier (2010) uses the term big data to describe the era of full-blown data explosion and suggests that in the era of big data, the invention of new tools will enable previously unusable data to be discovered and mined, although there are potential pitfalls to this, such as more serious surveillance or invasion of privacy. Furthermore, Leszczynski and Crampton (2016) also suggest that in a Big Data world, the perception of using tool logic to calculate human needs can be met by automatically calculating people's activities and decisions

The era of Big Data has now been ushered in and the amount of data that can be collected has exploded. This has resulted from the widespread use of mobile phones, computers and product sensors as personal and product data generating stations, the widespread use of social media, and the real-time storage of data and behavior by cloud computing and big data analytics technologies. In contemporary society, the use of big data has helped commercial social media to achieve success in its own development. It is based on big data to collect, grasp, and analyze users' personal characteristics and preferences, and as a result, push targeted advertising to them, unlike the previous commercial broadcast media which could only rely on the audience to passively explore information. In addition, social media users can also create data by searching and posting information. Overall, digital labor on social media includes consumption

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(productive consumption), continuous monitoring of personal data, targeted personalized advertising, predictive algorithms and algorithmic auctions (Turow et al., 2015; Kitchinn, 2014). Furthermore, the growth of big data has contributed to the proliferation of consumerism, in part through the use of social media. Society is dominated by the logic of commerce, the whole world is turned into a giant shopping mall, people become targets of ubiquitous commercial advertising, and human identity is reduced to that of a consumer. In the pre-information age when media and consulting were still underdeveloped, consumerism could not fully penetrate all corners of the world and affect all people. However, the popularization of big data technology mainly promoted the impact of consumerism on almost all people. Many large Internet companies have a more influential monopoly position than the government while assuming social obligations. The collection, calculation and application of big data led by commercial forces constitute the operating foundation of the information society. Commercial power for the purpose of pursuing interests will use its monopoly commercial position to promote and penetrate consumer values, so that every individual who participates in social life and economic interaction cannot avoid big data and be guided by big data.

3.3 Data mining and analysis

The development of information technology has contributed to the emergence and continuous improvement of big data technology, and the concept of big data analytics (BDA) has been introduced. Big data analytics mainly involves data mining, statistical methods, business intelligence and other related fields (Chen et al., 2010), aiming to help companies practice and improve their existing application technologies and carry out other businesses that improve the core competitiveness of the organization through a new generation of technical architecture such as high-speed data collection, mining and analysis, and economic value extraction (Chen et al., 2012). It can be said that big data analysis is not only a deepening of information technology, but also an effective aggregation of information objects and problem presentation in the management environment. First, the process of data collection and distribution often results in the creation of more data, and data analytics can help to realize the recycling of this data so that it brings additional economic value to the data owners and users. For example, the process of searching and browsing for information on social media generates a large amount of data, and by analyzing this data, social media platforms can better determine user preferences, improve the accuracy of content and advertising recommendation algorithms, and help social media gain more economic revenue (Kitchinn, 2014). In addition, big data analytics is influencing business management models and facilitating the emergence of a plethora of new business models. Currently, the inherent logic of big data-driven business model innovation lies in the application of big data analytics to fully exploit the massive, diverse and multi-typed data, and based on this, to analyze and identify the real needs of users in order to redesign customer value propositions, innovate customer segmentation criteria and transaction methods, and further new thinking about the concepts of value discovery, value creation, and value realization. Furthermore, big data analytics can help companies collect a wide range of data from within the company, as well as from the external environment, which facilitates a comprehensive and accurate picture of the internal business situation as well as the external market and competitive situation.

4. Data Technology's Boost to Consumerism

4.1 Location-based services

Location-Based Services (LBS) technology plays the role of a high-value information provider in the commercial configuration of time and space. LBS integrates various information technologies such as mobile communications, the Internet, spatial positioning, location information and big data, and uses mobile Internet service platforms to update and interact with data, enabling positioning devices to obtain the current location of users and to provide information resources and other basic services to positioning devices via the Internet. In the online age, mobile apps and social media are a warehouse of data for retailers and marketers, which includes consumers' daily movements, shopping history, and identities (Verhoef et al., 2017). This is because the online age has largely stripped individuals of their privacy, and all types of consumer usage records and personal information are unknowingly perceived and collected in the form of data by social media (Beer and Burrows, 2013). According to Turow et al. (2015), in the 21st century, the competitive pressures and threats to businesses have increased compared to the past. As a result, consumer tracking, labeling, and customized communication have become strategic imperatives for these businesses, enabling them to effectively sell goods and services to individual customers and build long-term relationships with them, and to further develop their products by tracking

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consumer characteristics, behaviors, desires, and preferences in order to succeed in the competition (Beer, 2012; Yu et al., 2017).

For example, video sites such as Youtube collect and analyze customers' previous search history and video viewing history and combine this data to infer customers' personal preferences through intelligent analysis algorithms such as correlation algorithms, text abstraction extraction, as well as sentiment analysis, and subsequently recommend relevant videos to customers. Thus, such data mining techniques help video sites to market to customers with precision, improving customer experience and loyalty (Turow et al., 2015). In addition, in Japan, McDonald's collects information related to customers' use of e-coupons, such as what types of food they frequently purchase, which restaurants they spend at, how often they spend, etc., and based on this information, pushes the coupons to users more precisely.

4.2 Recommendation algorithm and consumption

As a means of inducing consumption, the recommendation algorithm (Tools and means of processing data) weaves a vast network that makes consumers nowhere to hide. For example, in online consumption, as mentioned earlier, companies recommend relevant products for consumers based on their purchase and search history, which is achieved through the use of the recommendation algorithm function. This is because the objectivity of the data is often questioned. Data is collected by people with subjective opinions and choices, and the presentation of data is related to individuals with emotion or even prejudice (Crawford, 2012; Wu et al., 2018). When the recommendation algorithm is utilized by online shopping platforms, merchants can effectively determine consumers' preferences and recommend products that match their preferences in a timely manner, even prompting changes in consumers' consumption structure patterns. Besides, the platform also determines the consumer's consumption level based on their demonstrated purchasing power prioritizes the pushing of products within their price range when they conduct a search.

In the Internet age, physical shops have been gradually suppressed or even replaced by online shopping, where users can browse and buy all kinds of products by simply opening their computers or mobile phones. Although in online shopping the user cannot see and touch the physical object and can only experience the product through pictures or videos, companies use new technologies to make users feel immersive. For example, by using recommendation algorithms to push consumers' 'favorite' products one by one to their eyes, this remote 'presence' heightens the sense of reality and enjoyment of being surrounded by objects. The speed, convenience, and accessibility of online consumption, as well as the digitization of money, have made consumers progressively less aware of the purchase of goods and the outflow of money. Bauman (2007) argues that online consumption frees people from geographical and temporal constraints and allows them to satisfy their desires at any time, with the consequence that consumption ceases to be something, that is used to satisfy a need and becomes a habit, an addiction, or even a compulsion. The recommendation algorithms show people a multitude of products they don't need, and with the sheer number of products, images, and videos available, it becomes difficult for consumers to identify what they are really lacking, and they are now only driven to shop by the act of consuming rather than by the value of the product. In this environment, all the shopping platform needs to do is to ensure that the products it recommends are attractive and that by constantly increasing the impact of sensitive information on people's eyes, consumers are enticed and their perceptions of consumption are changed.

5. How consumption affects people’s values

5.1 Data commercialization

One of the features of today's society is the widespread use of data, and capitalism has changed and evolved around this feature as it has begun to influence the behavior of individuals, shape their lives and identities, and extract value from them through data (Turow et al., 2015; Beer and Burrows, 2013). This domination is possible because, in this digital age, the ruling class no longer maintains power through violence but uses media platforms to spread their ideas and encourage people to subscribe to such values for the purpose of social control, and it is through data that information in the media is transmitted. For example, the state needs people to consume in order to drive economic growth and boost economic dynamism, so it begins to promote the value of consumerism. Firstly, the development of online transaction and payment platforms, data communication, and other elements stimulate the public's desire to consume, faster and easier consumption processes provide consumers with convenience and enable

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them to feel the accessibility of consumption (McCracken, 1990). Besides, the various product displays and promotions on online platforms satisfy consumers' current shopping desires while also stimulating their interest in new products. Besides, consumerism allows the use-value of products to be overshadowed by other meanings attached to them, such as symbols of status and class, i.e. people rely on goods to represent them. Buying therefore also implies the public's identification with the cultural significance of the commodity and the acceptance of a consumerist lifestyle.

5.2 Induced behavior

Baudrillard's concept of consumption alienation is based on the consumer society, where consumption controls every aspect of people's lives (Baudrillard, 1996). In contemporary times, consumption is no longer just a means for consumers to satisfy their own needs, but a means for people to identify with their personal identity and find personal value and meaning. Take the Tik Tok short video platform as an example. Its slogan is " Tik Tok, record a good life". On this platform, consumption-related content includes food, beauty, pets, childcare, etc., covering almost all aspects of modern life. In this online environment, users will unconsciously compare the 'good' life presented on the platform with their own lives. Once they see the content shown in the videos as normal life, they are prone to emotional, ostentatious, and wasteful consumption behavior, falling into the trap of consumerism.

In addition, in a consumer society, all kinds of goods are given symbolic value, and their branding, packaging, and identity meanings become more important, and consumers will consume products because of their pursuit of these symbols (Zou, 2019). For example, the Swarovski necklaces are not cheap, but they are touted by marketers and many users on Chinese social media as a must-have accessory for young ladies, seemingly implying that young ladies who do not have the necklace are outdated. Also, many clothing brands use slogans such as 'the most popular style of the season/year' in their marketing on social media, which has created a false perception among many consumers that clothes are only good for one year and should be thrown away after that. These examples show that the symbolic value somehow makes it easier for consumers to fall into the consumerism trap.

6. Conclusion

In short, in the era of Big Data, for businesses, data is capital and value, an object to be traded. Merchants monitor and collect data about their customers and based on that, use specific algorithms to analyze the data to deduce the basic conditions, characteristics, and preferences of their customers, and to further segment their customer base and tailor special services to each group. Consumerism, as a way of ideological control, affects consumers' behavior and the concept of worth and value, and it is safeguarding the interests of capitalists. We should treat it critically and avoid falling into the trap of capitalism.

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