

# Research on Fairness and Justice in Digital Technology from a Marxist Perspective

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## Abstract

**This study, guided by Marxist philosophy, deeply explores the issues of fairness and justice emerging in the development of digital technology. While digital technology promotes the development of social productive forces and social progress, it also brings a series of severe challenges to fairness and justice, such as the widening digital divide, imbalanced information distribution, and data security risks. This paper aims to systematically review the core tenets of the Marxist view of fairness and justice, and based on this theoretical foundation, critically examine the dilemmas of fairness and justice in the field of digital technology, thereby revealing the inherent dialectical relationship between digital technology and fairness and justice, and ultimately providing theoretical support and practical paths for constructing a digital fairness and justice order that meets the requirements of the times.**

## Keywords

**Digital technology, fairness and justice, Marxism.**

## 1. Introduction

Digital technology, as a core driving force for contemporary social development, is reshaping human society with unprecedented breadth and depth. However, with its rapid development, issues of fairness and justice have become increasingly prominent, attracting widespread attention from academia and all sectors of society. Although cutting-edge technologies such as big data and artificial intelligence have greatly improved the efficiency of social operations, their application has led to a continuous widening of the digital divide, unfair distribution mechanisms of data elements, the proliferation of algorithmic discrimination, and increased risks of personal privacy leakage, all of which pose severe challenges to existing principles of social fairness and justice. In view of this, this study will adhere to the standpoint of Marxist philosophy to deeply analyze the issues of fairness and justice in digital technology, aiming to reveal its deep-seated logic and inherent contradictions, thereby providing a solid theoretical foundation and feasible practical strategies for the construction of a fair and just order in the digital age.

## 2. The Development and Social Impact of Digital Technology

Digital technology, based on its unique binary encoding, has achieved discrete processing of information and intelligent interaction, profoundly restructuring the production logic, economic forms, and cognitive frameworks of contemporary society. Its core characteristics are mainly reflected in: efficiency, precision, replicability and shareability, integration, and flexibility. Reviewing the development process of digital technology, it can be roughly divided into the embryonic and foundational stage, the growth and popularization stage, and the mature and networked stage. Currently, we are in a new stage of integration and intelligent innovation, where digital technology is transforming the social landscape in all aspects with unprecedented speed and depth.

Digital technology has had a comprehensive and profound impact on contemporary society: it has not only promoted a fundamental shift in economic growth models from traditional factor-driven to data-driven; it has also profoundly changed traditional labor organization forms, leading to widespread discussions about the valuation of digital labor and the fairness of its distribution; in addition, algorithmic recommendation systems may lead to the emergence of 'information cocoons,' and deepfake technology poses a severe challenge to the authenticity of information; more importantly, algorithms themselves may embed or amplify existing social inequalities, thereby posing new and more complex challenges to the principles of fairness and justice. Thus, digital technology is both a powerful engine for social progress, but under the drive of capital logic, it can also exacerbate social inequality, leading to a series of new dilemmas concerning fairness and justice.

### 3. Dilemmas of Fairness and Justice in the Context of Digital Technology

The widespread popularization and in-depth application of digital technology have given rise to a series of complex and profound dilemmas concerning fairness and justice. This chapter will adopt a critical perspective of Marxist political economy to deeply analyze the four major dilemmas of justice that have emerged in the process of technological capitalization:

#### 3.1. Digital Capital Accumulation and Polarization

In the context of digital technology, social polarization presents a new trend, mainly manifested by the continuous widening of the digital divide and the accelerated concentration of wealth towards digital capital. Platform capital obtains huge profits with extremely low marginal costs, while the vast majority of ordinary people still struggle for a living. This profit stems from the implicit exploitation of digital laborers and the gratuitous appropriation of user data and attention, leading to rapid wealth accumulation and the formation of highly concentrated digital monopolies. The excessive concentration of wealth further exacerbates the digital divide, leading to significant differences in information access among different groups, and vulnerable groups face the dilemma of 'information poverty.' This not only affects their equal opportunities in education, employment, and healthcare but also poses a severe challenge to social fairness and justice. The accumulation of digital capital and the widening of the digital divide together constitute the new characteristics of polarization in the digital age.

#### 3.2. Digital Labor and Value Exploitation

Value exploitation in digital labor is a prominent dilemma for fairness and justice in the context of digital technology. In the process of digital labor, "platforms fragment and de-skill the labor process through algorithmic control, and laborers endure more hidden exploitation under the guise of 'de-labor relations'"[1]. At the same time, under algorithmic management, "the bargaining power of gig workers is systematically weakened, and platforms use 'technological neutrality' to conceal the essence of labor control, leading digital labor into a 'high output-low compensation' value exploitation cycle"[2]. Users contribute information to digital platforms without compensation and create immense value in this process; however, this value is gratuitously appropriated by platform capital. From the perspective of Marxist labor theory of value, users' clicks, browsing, comments, and sharing on digital platforms all constitute substantive 'digital labor.' This labor converges into massive data, which is ultimately transformed into huge commercial value. However, it is regrettable that most of the value created by users' digital labor is seized by platform capital, and users do not receive benefits commensurate with their contributions. This phenomenon is strikingly similar to Marx's critique of the exploitation of surplus value from workers in capitalist production. By gratuitously appropriating users' digital labor, platforms achieve rapid accumulation of digital capital and strengthening of monopolies, leading to the implicit exploitation of users' digital

labor value while they enjoy the convenience of services. This new form of exploitation makes the issue of fairness and justice in the digital age more complex and poses new challenges to traditional labor rights protection mechanisms.

### 3.3. Injustice in Digital Resource Distribution

Digital information, as an important means of production and public resource, still faces issues of injustice in its distribution mechanism, mainly reflected in the continued existence of the digital divide, unequal opportunities for information access, and the resulting social cognitive and mental health problems. The digital divide is becoming increasingly prominent, with significant differences among different groups in accessing and utilizing digital technology, leading to the exclusion of some groups from the digitalization process. The information explosion and changes in communication methods in the digital age have also brought about problems in social cognition and mental health. For example, algorithmic personalized recommendations may lead individuals into 'information cocoons,' thereby exacerbating symptoms of mental illness. In summary, the unjust distribution of digital resources is not only reflected in the digital divide at the material access level but also extends to multiple dimensions such as information access, cognitive shaping, and mental health, posing a systemic challenge to social fairness and justice.

### 3.4. Digital Information Security and Infringement of Subject Rights

In the digital age, information security issues have transcended the traditional scope of privacy protection; they more deeply involve the security and rights of personal subjectivity, life traces, and information from the material world in the digital space. The massive 'personal information' unconsciously provided by users is commodified by commercial forces, leading to the alienation and dissolution of individual personality. For example, the commodification of 'personal branding,' precise pushes and behavioral manipulation, the capitalization of geographic information and travel data, and the deep integration of the virtual world and real traces all reveal that digital technology, driven by capital logic, may commodify personal information, personality, and even subjectivity, thereby infringing upon individuals' basic rights and freedoms. Therefore, studying the issues of fairness and justice in digital technology from a Marxist perspective is not only an active response to current social problems but also a further deepening of Marxist theory in the development and practical application of the times [3].

## 4. Contemporary Interpretation of Marxist View of Fairness and Justice

Marx's view of fairness and justice is scattered throughout his profound critique of the capitalist system. Its theoretical foundation is rooted in historical materialism and is closely linked to core concepts such as productive forces, production relations, and class struggle. This chapter will deeply interpret Marx's view of fairness and justice from three dimensions: the origin of wealth, the logic of distribution, and the critique of power, and apply it to the analysis of fairness and justice issues in the context of digital technology.

### 4.1. The Origin of Wealth and the Digital 'Nature'

Marx profoundly emphasized that the true source of wealth lies in the organic combination of nature and human labor: "Labor is not the source of all wealth. Nature is just as much the source of use values (and it is surely of such that material wealth consists!) as labor, which is itself only the manifestation of a natural force, human labor power"[4]. In the digital age, "data has become the 'primitive nature' of the digital age, and the uncompensated data labor provided by users constitutes a new source of surplus value. Platform capital, through the privatization of data means of production, has completed the expropriation of digital 'natural forces'"[5]. The value

of scattered individual pieces of information is limited, but the aggregation of massive user information can create immense value and become an important means of production, which is mainly owned by a few large digital platforms. From the perspective of Marx's theory of the origin of wealth, the digital information gratuitously contributed by users is the 'nature' of the digital age, one of the fundamental sources of wealth. However, just as laborers' natural property was expropriated in the traditional material age, personal information is now being expropriated by digital capital. User data is collected, analyzed, and utilized without compensation, leading users to gradually become 'proletarian digital workers.' This trend may even develop to the point where people will need to engage in 'digital labor' to gain access to digital information or services in the future. This profoundly reveals the alienation and expropriation of the origin of wealth by digital capital, posing a fundamental challenge to fairness and justice in the digital age.

#### **4.2. The Logic of Distribution and Digital Labor Products**

Marx believed that distribution relations are determined by economic relations, and legal relations are a reflection of economic relations. He pointed out that there is no absolute fairness in society; on the contrary, so-called absolute fairness can often lead to injustice. To truly solve the problem of distribution and promote the realization of fairness and justice, it is first necessary to liberate and develop productive forces. Only when productive forces are greatly enriched can the communist principle of "from each according to his ability, to each according to his needs" finally be realized. Before that, Marx proposed the "same principle regulating the exchange of commodities," meaning that the exchange of equivalent labor quantities is fairness in practice, and the exchange of equivalent products is the fairness that can be achieved in current society.

In the digital production mode, Marx pointed out that human productive activity not only produces products but, more importantly, produces itself. In digital production, laborers not only produce material products and their material selves but also produce 'themselves in the digital world'—including digital identities, digital footprints, digital content, etc. However, these creations of the 'digital self' are appropriated by digital platforms. The value created by users' digital labor, such as data, content, and attention, is acquired by platforms without compensation or at extremely low prices, and transformed into huge profits. This new mode of exploitation means that users in the digital world not only fail to receive a distribution commensurate with their labor contributions, but even their 'digital bodies' are alienated and commodified under the dominance of capital logic. This is strikingly similar to Marx's critique of the exploitation and alienation of laborers in capitalist production relations. Therefore, the issue of distribution fairness in the digital age is essentially a fundamental contradiction in value distribution between laborers and digital capital under digital production relations, requiring us to deeply reflect on and reconstruct it from the perspective of Marxist distribution theory.

#### **4.3. Critique of Power and Digital Platform Hegemony**

Large digital platforms are like a powerful 'state,' dominating the 'nature' of the digital world—massive data and information flows. From a Marxist perspective, digital platforms exercise power similar to that of a 'state,' and their legitimacy deserves deep questioning. Marx argued that civil society is the foundation of the state, and the working people are the true masters of the state. Applying this critical idea to digital platforms, their essence should be regarded as a tool, and the ownership of all data information should rightfully belong to the users. However, when users register for services, they often do not fully understand or voluntarily authorize platforms to use their information without restriction. Therefore, platforms' excessive collection and utilization of user data, and the resulting dominance over the digital world, can be regarded as an illegal or unjust act. In the digital world, the position of platforms is similar

to that of a new type of 'state' or 'power center.' Platforms have absolute control over users, and users find it difficult to effectively supervise them, being forced to obey. This fully demonstrates that under the hegemony of digital platforms, users' autonomy and rights are severely infringed upon, and traditional power check-and-balance mechanisms face the risk of failure in the digital space.

Therefore, from the perspective of Marxist critique of power, the monopoly and hegemony of digital platforms are infringements on users' subjective rights and severe challenges to social fairness and justice. To fundamentally solve these problems, it is not enough to rely solely on external regulation; it is necessary to fundamentally change digital production relations, truly make the working people masters of the digital world, achieve democratic control over digital means of production, and thereby build a more fair and just digital society.

## 5. Conclusion and Outlook

This paper, based on the perspective of Marxist philosophy, deeply explores the issues of fairness and justice accompanying the development of digital technology. The study finds that while digital technology promotes the development of social productive forces, driven by capital logic, it not only generates but also exacerbates a series of dilemmas such as the digital divide, exploitation of digital labor value, unequal distribution of digital resources, and digital information security and infringement of subjective rights. The essence of these dilemmas is the concentrated manifestation of the contradiction between the ownership of means of production and the distribution of labor results under the digital capital accumulation model, which profoundly reflects a new type of class differentiation in the digital age—namely, 'proletarian digital workers' and digital capital that controls digital means of production—is gradually forming.

Marxist theories on the origin of wealth, the logic of distribution, and the critique of power provide profound insights for us to understand and solve the issues of fairness and justice in the digital age. Digital information, as the 'nature' of the digital world, contains immense value that is gratuitously appropriated by digital capital; the value created by users' digital labor is exploited by platforms, leading to injustice in distribution; and the monopoly and hegemony of digital platforms infringe upon users' subjective rights, posing a challenge to the fair balance of social power. The existence of these problems clearly reveals that behind the rapid development of digital technology, the basic contradictions of capitalist production relations are emerging in new forms.

To fundamentally solve the issues of fairness and justice in the digital world, merely relying on technical fixes is far from enough; instead, it requires the full play of human subjectivity in real society and the continuous improvement of institutional systems to effectively restrain and regulate it. This includes: strengthening the supervision of digital platforms, breaking data monopolies, and promoting the rational distribution of data elements; improving digital labor rights protection mechanisms and actively exploring models for determining and distributing digital labor value; comprehensively enhancing the digital literacy of all citizens and striving to bridge the digital divide; and establishing a comprehensive legal framework for digital information security to effectively protect citizens' digital rights and individuality. In the long run, Marxist theory believes that the ultimate solution to these problems depends on the continuous progress and development of productive forces. Therefore, while promoting the development of digital technology, we must always adhere to the people-centered development philosophy, be vigilant against the alienating tendencies of capital, actively explore and practice digital governance models that conform to socialist core values, and ultimately achieve universal fairness and justice in the digital age.

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