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Analysis of the logic path of algorithm supervision under the background of the Internet

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Abstract: The Internet exists objectively, and the empowerment of the Internet is affirmative. Existing power exists, but it also brings some thorny problems. Driven by big data, the boundaries of power begin to blur, and it will gradually develop into the possibility that those who master the Internet will become the main body of power, based on national governance. In order to better stabilize the government, the country's supervision of the Internet and issues at the level of algorithmic censorship must be strict. The Internet has already emerged, and the rapid spread of massive information is inevitable. Therefore, in order to cause serious problems, the question of how to supervise is the core of the research. Based on the background of the Internet, this article will analyze the Internet's algorithm supervision path with algorithm supervision as the entry point.

1. Introduction

New technologies such as artificial intelligence, big data, and blockchain have also developed rapidly relying on the Internet. In the face of new technologies, its essential face is the face of "algorithms". If someone accepts that algorithms are an important argument for social material participants in contemporary society, then problems with their behavior or governance of these participants will naturally arise. The relationship between algorithms and governance is complex and enforceable. of. The government in contemporary society takes place in the complex space of public, private, and mixed actors who participate in and solve existing problems in a certain interdependent manner which shows that the governed in society cannot pass through Use command or coercive power to directly control. The core of the concept of "governance" is the concept of multiple actors, none of which has the power to unilaterally and directly decide and implement policies. Algorithms are regarded as important participants in the governance process, and this form is often referred to as "algorithm supervision". Algorithms are widely used as part of the regulatory system: for example, the toll system implemented by the license plate number recognition system is used to manage the traffic in the city center; the facial recognition system is used for recognition at the airport; the algorithm is used to identify suspects with closed circuit television; the algorithm is used to detect fraudulent credit cards Transactions and so on.

In the era of sharing economy, the development of the Internet finance industry has become the focus of many scholars' research. Qiu Shuyuan, Yao Meifang, and Ge Baoshan (2021) proposed that how Internet finance companies can develop in compliance with regulations is a problem that needs to be solved urgently. Based on the most representative lending model in Internet finance, Wang Lixia (2021) proposed that it is necessary to gradually extend from the bottom-level micro-policy formulation to the top-level macro-regulatory system in order to build a more reasonable and efficient internet financial supervision system. Taking Internet joint loans as an example, Hu Bin and Fan Yunpeng (2021) pointed out that the mode of Internet joint loans stems from the characteristics of new financial services and its mismatch with the current regulatory model, and it is difficult to find a starting point for effective supervision of Internet platforms. Therefore, it is necessary to build a regulatory system based on the dual elements of funds and data. Similarly, Tan Li Rong and Sun Yin (2021) proposed that financial supervision should adhere to the principle of supervising substance over form and strengthen penetrating supervision. Sheng Xuejun (2021) discusses the origin and logic of new regulations on Internet credit supervision. The new regulations respond to the technological innovation of Internet credit, clarify the autonomy of credit entities in risk decision-making and control, and realize the appropriate allocation of powers and responsibilities of the parties to the cooperation. Existing regulatory concepts and regulatory measures cannot fully adapt to the new characteristics of the platform economy. Qu Chuang and Wang Xichen (2021) analyze the complex formation mechanism behind Internet platform power and monopoly behavior from the perspective of economics, and then strengthen multi-sectoral Coordinated supervision.

In an era when Internet companies are widely using platform strategies, it is pragmatic and necessary to examine the self-regulatory behavior of platforms under the dual identities. Ye Ming and Jia Hailing (2021) started with the dual identities of the Internet platform as a market entity and a regulatory entity, and discussed the plight and countermeasures of the Internet platform's self-regulation under the dual identity. Yue Caishen (2021), from the legal perspective of market infrastructure supervision, explores whether and how to incorporate Internet financial platforms into financial market infrastructure supervision. Guo Jin, Wang Lei, and Wang Dan (2021) proposed a basic research framework for Internet platform supervision, and thoroughly analyzed many market failures that existed in the development of Internet platforms, so as to provide a theoretical basis for comprehensively strengthening Internet platform supervision.

Most domestic research on Internet platform supervision focuses on the supervision of financial markets, and most research focuses on how to supervise and regulate financial markets. Of course, some scholars have focused the problem on other areas such as online education, but the key to the problem is not the supervision of the Internet platform itself. Although Guo Jin, Wang Lei, and Wang Dan (2021) proposed the basic research framework of Internet platform supervision, which includes the concept and type of Internet platform, but in fact, no matter what type of platform it is, what does this platform play? This kind of effect, and what kind of appearance the platform can finally present, all these problems are attributed to the platform itself, and these Internet platforms are most essentially composed of algorithms. Therefore, the supervision of Internet platforms should essentially be the review and supervision of algorithms. This article reviews the literature to supplement the theoretical content related to algorithm review and supervision.

2. Regulatory powers of Internet platforms

In recent years, the scope of content review of the adverse consequences caused by algorithms in various countries has generally expanded. Taking the proliferation of fake news on social media as an example, countries have generally strengthened the content censorship of social media, not only strictly regulating terror, pornography, hatred and other illegal content that infringes on public interests, but also strengthened content that infringes on private rights such as defamation. Supervision. China has always attached importance to government supervision of Internet content. The "Administrative Measures for Internet Information Services" implemented in 2000 as a basic law stipulates eight items that Internet information service providers are not allowed to produce, copy, publish, and disseminate, covering "objections to the basic principles established by the Constitution" and "endangering the country.""Security" and other illegal content, and set up a comprehensive clause "contains other content prohibited by laws and administrative regulations." In the past one or two years, newly issued documents have further expanded the scope of content review, such as "insulting or slandering others, infringing on the legal rights of others" that infringe on private rights, and vague moral provisions "endangering social morality or national excellent cultural traditions."的" etc. At the same time, China has also put forward advocacy requirements for content review, such as "promoting core socialist values." The supervision of the algorithm is carried out by reviewing the content after the fact, and the expansion of the review scope also means the strengthening of the supervision of the algorithm results.

Algorithmic censorship has expanded the already widespread use of the Internet by commercial entities primarily motivated by profit. Through this kind of supervision, Internet platforms can more actively and preemptively decide which speech should be allowed and which should be suppressed. This is usually based on their own standards and based on business considerations. Internet platforms are not the only way to use algorithms to over-connect with society or to exercise power in society more broadly. Algorithmic censorship is not the only way to increase power on Internet platforms. But algorithm censorship does enhance the existing power of the Internet platform in a new and unique way. Given that these platforms are widely used in public and private communications in society, the introduction of business-driven algorithmic review into the structural conditions of online communications allows Internet platforms to integrate business considerations into multi-layered social scenarios: such as family, business, politics, etc. Wait. As the Internet is regulated by algorithms and developed in a certain way, the ability of the Internet platform to provide a place for open and inclusive discussion, discourse, communication, and contact has been further weakened.

The assumption of civil liability for online platforms and the general obligation of active monitoring of content implies legislators' assumptions about the relationship between platforms and algorithms. That is, the algorithm is a tool of the network platform. As the developer and user of the algorithm, the network platform has similar control capabilities to the "tool" from the operation of the algorithm and the decision-making of the algorithm. For example, for news distribution and recommendation by algorithms on the network platform, assuming that the platform and traditional media have the same management and control capabilities, the network platform news service provider is required to bear the legal responsibility of the gatekeeper as well as the traditional media. This algorithmic instrumental assumption also means that the network platform has sufficient predictive power for the results of the algorithm. Therefore, regulators are not interested

in the technical reasons for the adverse consequences of algorithms. No matter what happens in the "black box" of algorithm operation, as long as such consequences can be avoided under the assumption of the ability of the network platform by law, the platform needs to bear the corresponding responsibility. By supervising the results of the algorithm, the accountability after the fact is a traditional legal regulation method. Since algorithms have always been regarded as trade secrets that should not be disclosed, this kind of regulatory approach can prevent legislators and judicial officials from intervening in the internal structure of algorithm operations and getting trapped in technical fields that judicial officials do not understand. Investigating post-event liability is a relatively safe regulatory method, which can prevent the judiciary from relying too much on professional knowledge and only dealing with purely legal issues. However, in the era of artificial intelligence, the technological development and role change of algorithms have brought new challenges to the traditional regulatory path.

3. A Legal Review of Internet Supervision under the Background of Algorithmic Governance

The transparency of algorithmic decision-making is an important way to crack the black box of algorithm, prevent algorithmic discrimination and the risk of algorithm being captured by commercial companies, and to ensure the fairness of algorithmic decision-making. Due to the professionalism of the algorithm code, the strong correlation with trade secrets and the security requirements of the algorithm, the open source method cannot solve the dilemma of insufficient algorithm transparency. In fact, what the public cares about is not whether the algorithm code is open, but whether the algorithmic decision-making goals used for government governance and the construction logic to achieve these goals can be understood and accepted by the public. “What public entities should focus on is whether the design, procurement, and implementation processes of algorithms for social governance are carried out in a deliberate and transparent manner. Public entities do not necessarily require suppliers to disclose accurate algorithm codes in their procurement algorithm contracts. Instead, suppliers should be required to deliver the generation records and operating logic of the algorithm model, which can be used to explain key policies and help carry out verification work.” Therefore, the construction of an algorithm interpretation system is a viable path to promote the realization of the goal of algorithm transparency.

In view of the fact that the algorithms used for government governance are often obtained through external procurement, the government should take advantage of its buyer's advantage and require algorithm suppliers to provide data sets including data sets for algorithm learning, labeling of data sets, and exclusion or weighting. Algorithm construction and test records including the basis and standards of certain data, the main policy choices made when the algorithm is constructed, the defects of the algorithm and related preventive measures, the verification and audit results of the algorithm, etc. These records should be published by algorithm vendors or the government to actively accept supervision and inquiries from the public and third-party agencies. In the government's practice of using algorithmic governance, relevant departments should also take the initiative to inform the counterparty that "decisions are made by algorithms" so that the counterparty can exercise the right to obtain algorithmic explanations and reject automated decision-making. When stakeholders raise reasonable questions, the algorithm provider also has the responsibility to provide explanations for governance decisions in an easy-to-understand manner.

In addition, we can also embed the basic ethics and justice concepts stipulated by the law into the algorithm model through code embedding. This goal can be achieved through the following two paths. One way is to formulate in advance the basic value criteria that the algorithm used for governance should follow in accordance with the characteristics of government governance and with reference to the basic provisions of existing laws, and then incorporate these ethical requirements into the main algorithmic decision-making through legal coding. Among nodes. When the algorithmic decision-making process deviates from these ethical requirements, the proxy node cannot be activated because it does not meet the corresponding trigger conditions, thereby blocking the generation of algorithmic decisions that violate the basic ethical guidelines. Another way is to use the learning ability of the algorithm itself to allow it to independently learn the proportion of each element in the value measurement in different situations in the governance precedent, and compare the current governance issues with the precedents, for the overlap or overlap of the two The interval adopts the same value selection tendency as the precedent, so as to ensure that the algorithmic decision-making conforms to the basic value judgment of government governance.

4. Conclusion

Algorithms are characterized by opaque "black boxes", because they rely on complex calculation processes to protect them as "commercial secrets" from being disclosed, but they can exercise or inform decision-making powers, which has a highly consequential impact and promotes the assurance of algorithm reliability. Demand. Therefore, it is very necessary to review and supervise the algorithm. British constitutional scholar Dawn Oliver proposed that "accountability is to require a person to explain and prove his decision or behavior, and then to compensate for any mistakes or mistakes." The requirements of the program rely heavily on the decision-making process of the machine, because they are based on the correlation between patterns and data points, rather than causal or explanatory theories of behavior, and continuous transformation of past input and output data. However, in a free and democratic society, society should be a transparent order, its working principles and principles should be accepted and reviewed by the public, and the social order must be reasonable. But this is not to say that the value of transparency and accountability must be higher than the value of efficiency, but that these value trade-offs should be discussed publicly, rather than simply solving efficiency issues through technical commands.

Algorithmic governance includes a wide range of social technical practices that order and regulate society in a specific way, from predictive supervision to labor management and content adjustment. One advantage of this is that he brings together these different phenomena, discourses, and research fields to help identify key controversies and challenges in the emerging digital society. Bias and fairness, transparency and human agency are all important issues. When the algorithm system is deeply integrated into the organization process, no matter which department or specific application it is in, it needs to be solved. Algorithmic governance has many aspects: it is regarded as orderly, standardized and behavioral modification, and it is a form of management, optimization and participation. According to different research fields, his characteristics are incredible, inscriptions of value and benefit, efficiency and effectiveness, power asymmetry, social inclusion, new exclusion, competition, response, participation, co-creation, and overload. For most observers, with algorithmization and dataization, governance becomes stronger, more embedded, and popular.

In other words, algorithmic governance becomes more inclusive, responsive, and allows more social diversity to exist objectively.

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