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AIGC-Driven changes in digital publishing labor practices and the logic of Development

Chen Sina [1], Liu Feng [2]*

[1-2] School of Journalism and Communication, Shanghai University, Shanghai, People's Republic of China

* Corresponding Author: **Liu Feng**

Article Info

Abstract

AIGC, as the latest Internet content production mode, further reshapes the labor practice of digital publishing industry with the iteration of intelligent technology, and brings brand-new opportunities and challenges for the transformation and upgrading of the publishing industry. The publishing labor mediated by generative AI represented by ChatGPT presents new features of automation and efficiency, humanization and interactivity, personalization and expansion, and promotes the changes of digital publishing labor practices in labor roles, labor forms, and labor processes. At the same time, the contradiction between the construction of labor subjectivity and the fall of labor rights, the optimization of labor functions and the degradation of labor capacity are all unavoidable real problems, and it is proposed to grasp the path of "human-machine" fusion publishing from the three dimensions of the government, technology, and laborers, so as to push forward the sustained and prosperous development of intelligent publishing.

1. Introduction

AIGC (AI Generated Content), i.e. Artificial Intelligence Generated Content, refers to the content production mode in the era of Web 3.0 represented by the Internet of Things. AIGC realizes automated generation based on natural language processing and natural language generation of words and sentences according to certain logic. Generative AI, as the production tool of AIGC, is an artificial intelligence technology based on deep learning algorithms. It uses unsupervised and semi-supervised machine learning algorithms that are trained on massive amounts of data to form a transformational model with generative capabilities, which then automatically generates new outputs from the model based on the user's inputs or requests, thus creating new content loaded with new text. ChatGPT, developed by OpenAI, is a generative AI application that differs from traditional natural language generation models in that, while conversational bots have existed for a long time, the current GPT-4 can be optimized for specific conversational scenarios to generate multimodal content - images, photos, audio, video, and more. GPT-4 can be optimized for specific conversational scenarios to generate multimodal content-images, photos, audio, video, coded messages, etc.-and has become a "multimodal big model" that goes beyond the unimodal function of language.

On the one hand, the ever-changing new technology as a catalyst to promote the intelligent transformation of the publishing industry has witnessed its development from "Printing Publishing - Electronic Publishing - Internet Publishing - Digital Publishing". The access to ChatGPT, the latest application tool of AIGC, also pushes the development of the publishing industry to a new stage of intelligence. On the other hand, there is a close relationship between generative artificial intelligence and digital labor. The introduction of AI represented by ChatGPT has undoubtedly brought a profound impact on the original labor ecology, making it present new features different from traditional digital labor and even creating a new form of digital labor. Revealing the relationship between technological innovation and labor in the digital publishing industry can not only deepen our understanding of the application of generative AI represented by ChatGPT but also enrich our examination of the specificity and complexity of the topic of labor in the digital publishing industry.

1. Characteristics of generative publishing labor

Artificial intelligence language models entered the publishing field in the early days and were mainly used for news writing, assisted editing and other primary word processing work, while ChatGPT, with its advanced linguistic cognition, comprehension and generative capabilities, has a wide range of applications in the fields of machine translation and cross-language communication, text reading and authoring, content analysis and automated summary generation, code writing and error correction, etc. The generative AI represented by ChatGPT has a wider range of information processing and content production capabilities, and the publishing labor mediated by generative AI presents the following new features through the new tools of new empowerment and new empowerment of intelligence.

First, automation and efficiency. Generative artificial intelligence in the iteration of the intelligent language model to expand the scope of its instrumental applications: selection planning level, ChatGPT can be in the depth of learning and analysis of massive amounts of data, automated generation of different from the general body of labor selection planning is more subjective, empirical perspective reference; content production level, ChatGPT on the one hand, can assist humans in completing the initial collection of massive amounts of background information, On the one hand, ChatGPT can assist humans to complete the initial massive background information collection, screening and summarization, simplify the preparation process, on the other hand, it can assist humans to construct ideas, language polishing, and build a basic content framework; at the level of editing and processing, ChatGPT can also be used to accelerate the speed of review through automatic proofreading, error correction, and optimization, and to automatically generate summaries and optimize the processing process through intelligent layout; at the level of printing and distribution, ChatGPT can be used to match with databases and combine with instant interpretation and analysis of the audience. At the level of printing and distribution, ChatGPT can match with the database, combine with the instant interpretation and analysis of the audience, dynamically and comprehensively predict the market situation, and realize the intelligent marketing and promotion of publications and push distribution; at the level of readers' service, the embedded application of ChatGPT in the search engine of publishing can quickly extract the key information of the works and enhance the reading experience of users.

Second, humanization and interactivity. The emergence of AI starts with the transfer of human instrumental tasks, and the development of generative AI covers a wider range of executive work, with humans returning to more subjective or dominant work - focusing on proposing tasks, setting goals, and supervising and managing the labor process. For example, when a content creator already has a creative framework or idea, he or she can ask the generative AI to complete the data collection work by directly inputting instructions, and the creator can devote more energy to organizing and innovating the content. On the other hand, generative AI does not exist only as a "silent answerer" like a search engine, but it is compatible with the intermediary service of a search engine, and at the same time, it adds communication possibilities to the process of human-computer collaboration with the help of conversational settings. ChatGPT, with its strong language learning ability and semantic comprehension ability, starts a dialogue with

human beings, injecting scenario thinking and emotional experience into the process of human-computer interaction, alleviating the tedium of human-computer interaction to a certain extent, and demonstrating that the development of intelligent technology pays attention to the labor experience of human beings.

Third, personalization and expansion. Generative AI does not provide homogeneous content like a general search engine, but through linkage with other intelligent systems or databases, and based on algorithmic simulation, it can customize content according to different user needs and preferences. For example, in terms of intelligent writing, ChatGPT not only generates corresponding content according to instructions, but also learns and simulates various text patterns and structures to further generate a personalized style similar to the input data. On the other hand, the content creation of generative AI covers multimodal forms of information products - text, images, audio and video, code programs, and in addition to answering questions, it can also independently create poems, stories, news reports, etc., which greatly expands the forms and types of generated content. Creators can not only use ChatGPT's multimodal functions to generate content in different media forms that run through the concept of unity, but also collide their own creative ideas through communication with ChatGPT, modify, optimize, and use it to generate new creative frameworks, expanding the breadth and depth of creative thinking.

2. Changes in digital publishing labor practices
2.1 Transformation of labor roles

As the product of human objectification practice and the organic participation element of the "human-machine" system, intelligent machines have the dual attributes of instrumentality and human-like nature. Intelligent technology empowers the operation of labor tools, and the function of individuals to directly manipulate and control labor tools for production is gradually replaced by intelligent robots, and the function of individuals in the production process has changed from the direct operator of the machine to the indirect operator of the production process - supervising, controlling, and managing the entire production process. Publishers use the natural language model represented by ChatGPT to complete the transformation of their labor roles, from instrumental functionaries to creative functionaries, and the status and feelings of human beings as the main body of labor are further upgraded and "seen". However, the change of role is also accompanied by the deprivation and reconstruction of labor skills. In terms of "technology deprivation", the intervention of artificial intelligence replaces the work of some professionals, accelerating the technical depreciation of the traditional labor force, and on the other hand, digital technology forces practitioners to master more competencies and technical qualities that match the various aspects of the digital publishing process.

2.2 Change in labor patterns

Some scholars point out that human beings from the past through the brain and limbs of the "decision-making - implementation" structure to rely only on the brain of the "decision-making center" structure change, the labor form "cerebralization The process of "cerebralization" makes human society more like a "super brain" focusing on perception, analysis, judgment, planning, evaluation and

other matters, while intelligent machines are responsible for executing tasks and doing specific work. When artificial intelligence can further standardize simple work through programmed settings, the number of people originally engaged in mechanical manual labor or repetitive mental labor such as information collection, data sorting, document classification, etc. will decrease rapidly. This kind of repetitive labor will be shifted to more labor forms that require human beings to give full play to their critical thinking and creative abilities, as represented by creative labor.

For the current publishing industry, at the level of communication and distribution, ChatGPT not only ensures the quality of published content through intelligent proofreading and typesetting, but also predicts the audience scope and market coverage of digital publications through in-depth analysis of the published content, assisting in the planning of digital distribution, etc., and the time saved can be put into more creative labor, freeing the publishing industry from the simple and repetitive work of complicated processes. The time saved can be used to invest in more creative labor, freeing publishing industry practitioners from simple, repetitive and complicated process work.

2.3 Transformation of the labor process
Although artificial intelligence to a certain extent can replace human beings to complete the typical, subordinate, closed as the characteristics of mechanical labor, automation technology does not mean that can be completely independent of all aspects of the work, human labor and intelligent machine synergy embedded in the basic form of transition to a digital society as a form of labor. However, the so-called "synergy" is not directly equivalent to the role of command, control and other full of dominant nature, there are also repetitive work such as data labeling, cleaning and so on.

In the production of AI products that appeal to human-computer interaction, cognitive labor related to human capabilities such as recognition, judgment, and innovation has become the dominant form of labor. Behind the explosion of ChatGPT are countless cognitive laborers who are invisible in the wave of digitization, and who are responsible for manually annotating or reviewing the content of the huge database. The combination of the opaque employment practices of ghost work and the rhetoric of AI's omnipotence has constructed an illusion that technology can replace humans.

In the publishing industry, although ChatGPT has the function of text translation, which can quickly complete the conversion between languages. However, the accuracy of the result, especially the smoothness of the context of the translated text and even the conveyance of emotions, still requires human translators to carry out gate-keeping labor, such as erroneous or harmful "digital garbage" that can contaminate the information environment and cause an increase in the sunk cost of publishing laborers, which is often ignored or obscured. The study of "digital labor" has led to the "visibility" of much digital human labor, but AIGC, as a kind of "labor," is not visible in terms of the many components or elements of human labor behind it. However, AIGC as a kind of "labor", behind which many components or elements of human labor are not visible, is embedded in the "structural network" of human labor in an algorithmic and intelligent form.

3. The impact of generative AI on publishing labor
3.1 The contradiction between the construction of labor subjectivity and the marginalization of labor rights
The iterative development of generative AI expands the coverage of intelligent technology on labor types and processes, and procedural brain work such as document writing and translation and proofreading can also be done by it. When the time for individuals to engage in repetitive labor is shortened, creative thinking can be given full play. Individuals who follow their own interests, hobbies or talents to participate in and create content related to them are truly restored to the subjectivity of human beings and promote the comprehensive and free development of human beings.

However, it is undeniable that it is not easy for human beings to adapt to the change in the form of labor. First of all, due to differences in education, knowledge and even worker's endowment, not all individuals have the conditions to engage in creative labor. Repetitive labor is boring, but as a means of earning a living, it still provides a chance of survival for every worker who produces output through physical strength or simple brain power. The replacement of artificial intelligence deprives people of the right to engage in such labor to a certain extent, and even threatens the right to survival and development of workers. Second, while the widespread application of AI harvests a large number of entry-level jobs, the competition for labor rights among individuals has gradually taken on an involutional trend. Even if workers change from executors to supervisors, they still need to fully understand and learn how to better apply intelligent technology, which puts higher demands on their intelligence literacy, and their self-learning ability faces the dilemma of racing against the speed of technology iteration. Once again, the problem of technological divide should not be ignored. Some scholars have pointed out that "in the case of widespread use of AI technology, micro-individuals with technological or capital advantages will get higher benefits in the dynamic competitive substitution process of society, while the other part of individuals may be in a state of destruction". Individuals in general will be deprived of their labor rights both by generative AI itself and by individuals with technological or capital advantages.

3.2. The contradiction between the optimization of workers' functions and the degradation of their work capacity
The intelligence of labor tools promotes the optimization of labor functions, the number of people directly involved in labor decreases, and the individual changes from the original direct operator to the manager, supervisor, and regulator who gives instructions. Laborers are detached from the direct production process and participate as indirect laborers in the new form of human-machine collaboration in the labor process.

However, total reliance on AI is dangerous. As Marx said: "The exercise of human labor capacity requires the development of basic physical and mental abilities, and direct reliance on AI while skipping or neglecting the cultivation and training of basic abilities will lead to the deterioration of labor capacity. In the digital publishing industry, there is a phenomenon of "skills deprivation", in which access to technology leads not only to the degradation of workers' professional skills, but also to the destabilization of labor relations. Generative AI applications cover the specialized knowledge and hard skills of publishing industry workers,

who inevitably face fewer opportunities and more stressful situations. This means that the anxiety of being replaced at any time is like a sword of Damocles hanging over the head of the workers, reminding them that they need to expand and improve their professional knowledge, technical adaptation and operational ability, and the consequent increase in labor time and intensity.

4. Exploring the practical path of "human-machine" integrated publishing driven by AIGC
4.1 Government level
In the development of publishing industrialization and marketization, the government has an important guiding and regulating role in planning and regulating the allocation of market resources. To address the employment security of publishing industry personnel, the government should uphold the guiding concept of human-machine synergy, strengthen intelligent labor skills training for relevant employers, improve the technological literacy of workers, alleviate the panic and anxiety of workers caused by the access to intelligent technology, and promote the resolution of labor dilemmas in the era of intelligence. In view of the risks and challenges of the application of intelligent technology in the publishing industry, we should also complete the layout of the policy system in the relevant fields as soon as possible, and formulate unified technical specifications from the ideological security control system, the overall national planning and control system, and the industry standards and norms control body, so as to balance the development of intelligent technology with the industry's service capacity.

4.2 Technical level
The research and development of generative AI is based on human supervised learning and reward algorithms, which need to be formed by human beings through a large amount of data feeding and training in the early stage, so it can be seen that the development of AI technology needs human beings to continue to play an active role in providing the original support for it. Back to the publishing labor, if the laborers want to generate content that better matches the input instructions through ChatGPT, they need to continuously shape their precise understanding of the needs through multiple rounds of dialogues up and down, and then complete the creation of the corresponding information products. Generative AI is not just a tool to carry unidirectional human needs, but people and technology will gradually become mutual entrusters, extenders and enablers, reshaping the labor process and improving labor efficiency with the relationship of subject coexistence. On the other hand, embedding basic human values and ethical norms into the design process of intelligent programs such as ChatGPT, and allowing AI to "think" and make decisions under these norms, will also be conducive to bringing the review and proofreading of publications closer to humane considerations.

4.3 Worker level
The first to bear the brunt of the development of AI technology is the labor force, which is the main body of human beings. Therefore, for workers, keeping an open mind and actively practicing is the key. Conceptually, they should change their thinking about employment, understand and accept the new forms of employment generated by intelligent technology, and find their own career positioning and route planning in the wave of "machine-for-man". In practice, it is

necessary to keep up with the development of technology, improve knowledge reserves and polish professional skills. Especially in the transition period when generative artificial intelligence has not yet been applied on a large scale, workers in the publishing industry must strengthen their learning of technical knowledge and work hard in areas that artificial intelligence cannot surpass in the short term, such as creativity, imagination, empathy, etc., to build up their core competitiveness and shift to jobs with "high creativity + emotional intelligence". The work of "high creativity + emotional intelligence" can further improve their labor efficiency through collaboration and sharing with intelligent machines.

5. Funding
ChatGPT, as a powerful intelligent language model, has changed the labor ecology of the publishing industry by virtue of its algorithmic originality, comprehensive capability, and wide application, and has pushed AIGC to reshape the labor practice of digital publishing. On the whole, the publishing labor mediated by generative AI represented by ChatGPT presents new features of automation and efficiency, humanization and interactivity, personalization and expansion, and promotes the change of labor roles from "instrumental functionaries" to "creative functionaries" in the digital publishing labor practice. It also promotes the labor practice of digital publishing to change from "instrumental functionaries" to "creative functionaries", from "repetitive labor" to "creative labor", and from "visible" to "invisible". The picture of the change of labor process from "visible" to "invisible". The impact of generative AI on publishing labor is also two-sided, the contradiction between the construction of labor subjectivity and the loss of labor rights, and the contradiction between the optimization of workers' functions and the degradation of their labor capacity are unavoidable realities. Therefore, in the future publishing practice, we should grasp the path of "human-machine" integrated publishing from the three dimensions of the government, technology and workers, and respond to the impact and challenges of the publishing industry by accelerating the construction of human-machine synergistic publishing industry ecology, accelerating the reshaping of human-machine interactive publishing labor forms, and accelerating the implementation of human-machine complementary publishing concepts to promote the continuous and vigorous development of intelligent publishing. Promote the continuous and vigorous development of intelligent publishing.

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