

Artificial Intelligence Empowering Publicity Management in Colleges and Universities: Innovative Paths and Practical Research

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Abstract: In the context of media convergence and the digital transformation of education, publicity management in colleges and universities is confronted with practical predicaments such as content homogeneity, insufficient communication accuracy, low efficiency, and lagging public opinion response. As an important bridge connecting colleges and universities with teachers, students and society, the quality of publicity work directly affects the brand image, educational effectiveness and social influence of colleges and universities. Artificial intelligence technology, with its core strengths such as data mining, intelligent generation, precise push, and real-time monitoring, offers a new opportunity for the innovative development of publicity management in colleges and universities. This paper first presents innovative practical ideas for the deep integration of artificial intelligence and publicity management. Then, from a theoretical perspective, it reviews the core logic and practical predicaments of artificial intelligence empowering publicity management in colleges and universities, explores scientifically feasible integration paths, and demonstrates its application value through case studies, providing theoretical references and practical lessons for the digital and intelligent upgrade of publicity management work in colleges and universities. Help to enhance the dissemination, guidance, influence and credibility of publicity work in colleges and universities.

Keywords: Artificial Intelligence; Colleges and Universities; Publicity Management; Innovative Practices; Education-oriented.

1. Introduction

With the rapid development of higher education in our country, colleges and universities, as the basic units for talent cultivation, scientific research and social services, are increasingly important in their publicity and management work. Unlike macro-level publicity at the school level, college publicity is more targeted, professional and relevant, focusing on core contents such as discipline construction, faculty strength, talent cultivation, academic achievements and campus culture, directly serving the connotative development and brand building of the college. At present, the way teachers and students in colleges and universities obtain information is characterized by fragmentation, personalization and interactivity. The traditional "one-way indoctrination" propaganda model is difficult to meet the needs of propaganda work in the new era and urgently needs to achieve transformation and upgrading with the help of new technologies [1].

Artificial Intelligence (AI), as the core force leading the new round of technological revolution and industrial transformation, has widely permeated various fields such as education, media, and government affairs. According to the "China Online Audio-Visual Development Research Report (2025)" [2], the current number of short-video users in China has reached 1.40 billion, with an average daily usage time of 156 minutes per person. Intelligent media is profoundly reshaping the information dissemination pattern and providing a historic opportunity for university publicity work to break through traditional boundaries and reshape influence. The deep integration of artificial intelligence technology with the publicity and management work of colleges and universities can not only solve the pain points and difficulties

of traditional publicity models, improve the efficiency and quality of publicity work, but also promote the deep integration of publicity work with discipline construction, talent cultivation and campus culture construction, highlight the characteristics of colleges and convey educational concepts. Exploring the innovative application of artificial intelligence in college publicity management in light of work practice is not only a response to the requirements of The Times for the digital transformation of education [3], but also a practical need to enhance one's own working ability and promote the high-quality development of college publicity work.

2. The Current Situation of Artificial Intelligence Empowering Publicity Management in Colleges and Universities

At present, driven by the digital transformation of education and the convergence of media, artificial intelligence technology has gradually permeated every aspect of publicity management in colleges and universities, presenting a development status of "initial integration, initial results, and coexistence of difficulties", and the overall situation is in the transitional stage from traditional publicity to intelligent publicity, demonstrating the significant advantages of technology empowerment. It also reveals many urgent practical problems that echo the current digital development needs of publicity work in colleges and universities [4].

In terms of application effectiveness, artificial intelligence has achieved initial implementation in all core links of publicity and has become an important means to solve the

pain points of traditional publicity. In terms of content creation, most colleges have introduced AI-generated tools to rapidly produce news releases, promotional posters, short video scripts, etc., significantly shortening the creation cycle. The content production efficiency of some colleges has increased by more than 40% on average. At the same time, with the help of AI image generation and video editing tools, the presentation forms of promotional content have been enriched and the threshold for visual content production has been lowered [1,2]. In terms of dissemination channels, some colleges have built AI multi-channel collaborative management platforms to achieve "one-time creation, multi-channel distribution" of publicity content. Through AI algorithms to analyze audience profiles, they have promoted the transformation of publicity from "casting a wide net" to "precise drip irrigation", effectively enhancing content reach and dissemination efficiency. The total reading volume of the official media matrix of some colleges has increased significantly year-on-year [1]. In terms of public opinion management, the application of AI public opinion monitoring systems has gradually become widespread, which can capture relevant information from the entire web in real time, set keyword warnings, and help publicity officers achieve "early detection, early warning, and early handling" of public opinion, making up for the shortcomings of traditional manual public opinion monitoring [5]. In addition, some colleges have used AI intelligent customer service and intelligent query platforms to deeply integrate publicity work with services for teachers and students, enhancing the service and warmth of publicity work. Overall, the application of artificial intelligence technology has initially achieved multiple effects of improving publicity efficiency, innovating forms and optimizing services, laying the foundation for the intelligent transformation of publicity management in colleges [6].

In terms of practical difficulties, the deep integration of artificial intelligence with college publicity management still faces many obstacles, which restrict the full play of the value of technology empowerment. First, the level of technology application is relatively low and the adaptability is insufficient. Most of the AI tools used by colleges are general-purpose and lack customized development based on the characteristics of college disciplines and publicity needs. Some tools are complex to operate and have high learning costs, resulting in technology application being superficial and difficult to truly fit the actual publicity work [6]. Second, it is more difficult to control the quality of content. Within AI generation, there are problems such as homogeneity, illogical inaccuracy, and factual errors. Some propaganda work overly relies on AI technology and neglects the subjectivity and value guidance role of human creation, resulting in propaganda content lacking ideological depth and humanistic warmth, deviating from the fundamental orientation of "cultivating virtue and nurturing people" [7]. Third, there are risks to data security and privacy protection. The application of artificial intelligence relies on a large amount of audience data (such as information of teachers and students, browsing records, interaction behaviors, etc.). If the data collection, storage and use are not standardized, problems such as data leakage and privacy violation are likely to occur, which violates relevant laws and regulations on data security and also affects the trust of teachers and students in publicity work. At the same time, the open communication environment poses new challenges to educational positions. False

information and value infiltration can spread through relevant platforms, posing significant challenges to content control, public opinion response, and position management capabilities. Fourth, the construction of the talent team lags behind and there is a lack of compound capabilities: publicity specialists in colleges and universities are mainly administrative managers and those with a background in liberal arts, lacking compound talents who understand both publicity work and artificial intelligence technology, resulting in a lack of professional support for the integration of artificial intelligence technology and publicity management work. At the same time, some publicity officers have an insufficient understanding of artificial intelligence technology and are reluctant to actively learn and apply new technologies, which restricts the intelligent transformation of publicity work. The propaganda team's lack of ability in short video narrative and data analysis makes it difficult to transform high-quality educational content into easily accessible and acceptable communication products, weakening the effect of value communication [8]. Fifth, insufficient funding and the lack of a long-term mechanism: The application of artificial intelligence technology (such as the development of customized tools, technical training, equipment updates, etc.) requires certain financial support, but the funds for publicity work in most colleges and universities are limited, making it difficult to guarantee the continuous application and upgrading of artificial intelligence technology. At the same time, there is a lack of a sound long-term mechanism and a lack of systematic planning for the application of artificial intelligence technology, resulting in the application of technology being mostly "phased attempts", making it difficult to achieve sustainable development and to form a "data-driven, intelligence-enabled" publicity management model.

3. Innovative Practices and Paths for the Integration of Artificial Intelligence with Publicity Management in Colleges and Universities

Based on the daily work of publicity management in colleges and universities, including content creation, channel dissemination, public opinion monitoring, brand building, teacher and student services, etc., and in light of the core advantages of artificial intelligence technology, propose innovative practices that can be implemented and promoted, along with scientifically feasible implementation paths, taking into account both practicality and innovation. To provide core practice and theoretical support for the efficient implementation of publicity work in colleges.

3.1. Intelligentization of Content Creation: Breaking Homogeneity and Enhancing Content Quality and Efficiency

Content production is the core carrier and value foundation of publicity management in colleges and universities, and its quality directly determines the communication effectiveness and educational effectiveness of publicity work. Currently, traditional publicity work in colleges and universities generally faces practical bottlenecks such as prominent homogenization predicament, low production efficiency, and insufficient adaptation to audience demands in the content

creation process. With the help of artificial intelligence technology, the transformation of content creation into precision, efficiency and personalization can be achieved. Specifically, the college can build its own promotional content generation model based on Natural Language Processing (NLP) technology, quickly generate initial drafts of various promotional contents by inputting core keywords, and then use AI text optimization tools to complete language polishing, logical sorting and channel voice adaptation, Transform academic discourse into colloquial language to enhance readability of the content; At the same time, build an audience profiling system based on AI data mining technology, analyze the information needs preferences of different groups such as freshmen, alumni, examinees and parents, and customize and precisely push personalized content tailored to different audiences; In addition, visual content such as posters and short videos can be quickly produced with the help of AI image generation and video editing technology to lower the technical threshold. Combined with virtual reality (VR) technology, an online immersive campus experience platform can be built to allow the audience to perceive the college environment and learning atmosphere as if they were there, comprehensively enhancing the quality, efficiency and appeal of promotional content. First, optimize the application of technology, select suitable AI content creation tools, make simple optimizations based on the needs of the college, conduct technical training, lower the application threshold for publicity officers, and encourage officers to naturally embed AI throughout the entire content creation chain. Second, strengthen quality control of content, adhere to the "human-led + AI-assisted" model, clarify the dominant position of human in content planning, review and optimization, establish a strict content review mechanism, eliminate problems such as homogenization and illogical inaccuracy of AI-generated content, and adhere to the fundamental orientation of "moral education and talent cultivation". Third, build a distinctive content system. Combine the core resources such as the discipline characteristics and teaching staff of the college, use AI to explore distinctive publicity points, build a series of contents such as academic popular science and teacher-student profiles, adopt story-telling narrative strategies, and enhance the appeal and identity of the content.

3.2. Intelligentization of Communication Channels: Precise Reach and Enhanced Communication Efficiency

Communication channels are the key carriers for colleges and universities to reach the target audience and realize the value of publicity. Traditional college publicity work mostly relies on a single communication channel such as official accounts, official websites, bulletin boards, etc. There are prominent problems such as limited communication scope, insufficient audience accuracy, poor channel synergy, and it is difficult to adapt to the fragmented and multi-scenario information acquisition habits of the audience. This has restricted the full play of the effectiveness of publicity. Relying on the algorithmic advantages and integration capabilities of artificial intelligence technology, an intelligent communication system of "multi-channel collaboration, precise reach, and data-optimized" can be constructed, promoting the transformation of publicity work from "casting a wide net" to "precise drip irrigation". Specifically, an AI communication channel management platform can be built to

systematically integrate various communication channels such as the college's official account, video account, academic website, alumni groups, etc., to achieve "one-time creation, multi-channel distribution" of publicity content; AI technology can automatically adapt content presentation forms based on the characteristics of the audience and dissemination patterns of different channels. At the same time, it optimizes the content release time based on the data of the active period of the audience to maximize the exposure rate and dissemination efficiency of the content. By using AI algorithms to conduct multi-dimensional mining and analysis of audience browsing records, interaction behaviors, interest tags and other data from various channels, precise audience profiles are constructed, and different types of promotional content such as academic lectures, subject competitions, recruitment and employment are precisely pushed to target groups such as students of relevant majors, faculty and staff in corresponding fields, alumni and parents of examinees, effectively avoiding ineffective dissemination; At the same time, use wechat official accounts, video accounts, mini-programs and other carriers to efficiently convert public domain traffic into private domain users and build a long-term communication and interaction platform; In addition, AI data statistics tools can be used to monitor the publicity data of various communication channels in real time, automatically generate multi-dimensional communication effect analysis reports, provide data support for publicity specialists to optimize publicity content and communication strategies, and promote the "data-driven" closed-loop optimization of publicity work. Implementation path: First, integrate resources and build a college-specific intelligent publicity platform to achieve integrated functions such as content distribution and data statistics, customize the development of characteristic modules such as academic achievement publicity, break down departmental barriers, and implement the "one-time collection, multi-generation, multi-platform distribution" model. Second, precise push optimization, relying on AI algorithms to improve audience profiling, push corresponding content according to different audience needs, and optimize content release time to increase content reach and conversion rate. Third, establish a technology application feedback mechanism, regularly collect feedback from publicity specialists, optimize platform functions and tool configurations, draw on advanced experience from other universities, and drive continuous technological iteration.

3.3. Intelligent Public Opinion Management: Early Warning to Enhance Response Capabilities

The publicity work of colleges and universities has to deal with various public opinion risks (such as student complaints, academic disputes, event disputes, etc.). Traditional public opinion management relies on manual monitoring, which has problems such as lagging response and limited coverage. Artificial intelligence can achieve real-time monitoring, early warning and rapid response of public opinion. Specifically, it involves building an AI public opinion monitoring system to capture information related to the college in real time from the entire web (social media, news websites, forums, Tieba, etc.), setting keyword warnings (such as college name, major name, faculty and staff names, topics related to students, etc.) to achieve "early detection, early warning, early handling", while monitoring positive public opinion to expand the positive publicity effect; Use AI to conduct sentiment analysis,

heat analysis, and source analysis on the captured public opinion information to determine the severity, development trend, and impact range of the public opinion, accurately locate the source of the public opinion, and provide data support for the formulation of response strategies; For common public opinion issues (such as student inquiries, complaint feedback), AI intelligent customer service will automatically reply to improve response efficiency. For complex public opinion, AI can generate initial draft of response copy, which will be revised and improved by publicity officers before being released, establishing a "algorithmic review + human screening" dual-wheel mechanism to adhere to the ideological bottom line. First, improve the AI public opinion monitoring system, optimize keyword Settings, expand the coverage of public opinion monitoring, and achieve real-time capture and precise early warning of information across the entire network. Second, establish a hierarchical response mechanism for public opinion. Based on the results of AI public opinion analysis, clarify the handling process and division of responsibilities for different levels of public opinion, and promote the coordinated governance of cyber security and ideological security. Third, strengthen public opinion response capacity building, conduct regular public opinion handling training, enhance the ability of publicity officers to respond to complex public opinions with the help of AI tools, and ensure timely and standardized responses [8].

3.4. Intelligentization of Brand Building: Creating Distinctive Features to Enhance the College's Influence

Brand building of the college is an important goal of publicity and management. With the help of artificial intelligence technology, a brand image with the characteristics of the college can be created, enhancing the college's recognition and influence. Specific practices include: using AI design tools to optimize the college's LOGO, slogan, and visual identity system, combining the college's disciplinary characteristics and educational philosophy to generate multiple options to create a recognizable brand image, exploring unique symbols in the college culture, and creating exclusive memory points [9]; With the help of AI technology, incubate the distinctive promotional IP of the college (such as the college mascot, academic expert IP, campus life IP), use AI to generate mascot images, emoticons, short videos, enhance brand affinity through multi-channel dissemination, create "professor IP", and rely on AI tools to organize the research results and academic viewpoints of professors and generate popular science content, Make the abstract disciplinary strengths perceptible; Use AI data mining technology to integrate alumni information, build an intelligent alumni linkage platform, push information on the development of the college and alumni activities, encourage alumni to participate in the promotion of the college, use AI algorithms to precisely match alumni resources with the development needs of the college, and use alumni as a "living business card" to expand the social influence of the college. First, strengthen the systematic construction of brand image, optimize the visual image system with the help of AI design tools, explore the cultural connotations of the college, and create exclusive brand memory points. 2 Promote the long-term incubation of characteristic ips, formulate IP communication plans, and push IP-related content through multiple channels to enhance IP recognition and influence [8].

Third, build an intelligent alumni linkage mechanism, integrate alumni data, use AI algorithms for precise matching, initiate activities such as "alumni recommenders", encourage alumni participation in college promotion, and deepen cooperation between alumni and the college.

3.5. Intelligentization of Teacher-Student Services: Get Closer to Needs and Raise the Temperature of Publicity

The publicity work of the college is not only about "speaking out", but also about "serving internally". With the help of artificial intelligence technology, the service nature of publicity work can be enhanced to meet the needs of teachers and students and increase their sense of belonging and identity. The specific practices include: building an AI intelligent query platform (such as wechat mini-program, college official website entrance), where teachers and students can query relevant information of the college (such as rules and regulations, activity arrangements, academic achievements, faculty information, etc.) through voice and text, with AI automatically replying to achieve 24-hour all-day service and reduce the pressure of manual consultation; Use AI questionnaire tools to automatically generate research questionnaires (such as teachers' and students' opinions and suggestions on publicity work, information demand research, etc.), push through multiple channels, automatically collect questionnaire data and generate analysis reports to accurately grasp the needs of teachers and students, and set up an intelligent suggestion platform to relieve potential negative online emotions; Based on the identities and needs of teachers and students, use AI algorithms to push personalized service information (such as course reminders for students, activity invitations, employment information; academic exchanges and training notifications for faculty and staff, etc.) to deeply integrate publicity work with daily management services. First, optimize the AI intelligent service platform, improve the query function and service scenarios to ensure accurate and efficient information query and enhance the user experience of teachers and students. Second, establish a dynamic collection mechanism for students' and students' demands, regularly collect their opinions through AI questionnaires and intelligent suggestion platforms, and direct their concerns to internal channels for efficient responses. Third, promote the precise implementation of personalized services. Relying on audience profiling data, optimize push algorithms to ensure that service information meets the actual needs of teachers and students, and achieve a positive interaction between publicity function and governance efficiency.

3.6. Intelligentization of the Guarantee System: Breaking the Dilemma and Promoting Sustainable Integration

In response to current realities such as talent, funds, and data security, we will improve the support system and promote the deep integration and sustainable development of artificial intelligence and publicity management. First, strengthen the construction of the compound talent team, regularly organize publicity specialists to participate in AI technology application training, invite technical experts and industry scholars to give lectures, encourage self-study and enhance digital literacy; Introduce interdisciplinary talents in new media and artificial intelligence, establish a cross-

departmental collaboration mechanism, and build a "teacher-student co-creation" content production ecosystem; Establish incentive mechanisms to recognize and reward specialists who have innovatively applied AI technology and achieved good publicity results to stimulate work enthusiasm. Second, improve funding and long-term mechanisms, actively seek financial support from schools, focus on areas such as platform construction and technical training, and explore diversified sources of funding such as alumni donations and school-enterprise cooperation; Formulate medium - and long-term plans for the integration of artificial intelligence with the college's publicity management, establish a closed-loop mechanism of "technology application - effect evaluation - optimization and improvement", and promote the transformation of publicity work from "phased tasks" to "regular brand deepening". Third, strengthen data security and privacy protection, establish and improve the management system for data collection, storage, use and destruction, strictly abide by relevant laws and regulations, encrypt audience data, clarify usage rights, conduct regular data security checks, and identify potential security risks.

4. Conclusion and Prospects

Artificial intelligence technology, as the core driving force for the digital transformation of education, provides a new opportunity for the innovative development of publicity management in colleges and universities. Based on the actual situation of publicity work in colleges and universities, this paper sorts out the current status of AI empowering publicity management in colleges and universities, clarifies the achievements and predicaments of current technology application, and proposes innovative practices covering multiple links such as content creation, channel dissemination, public opinion management, brand building, and teacher and student services in light of the current situation, along with targeted implementation paths. The feasibility and effectiveness of the case studies were verified. The research shows that the deep integration of artificial intelligence with publicity management in colleges and universities can effectively solve problems such as content homogeneity, insufficient communication accuracy, low efficiency, and lagging public opinion response in traditional publicity work, and improve the efficiency and quality of publicity work; At the same time, it can promote the deep integration of publicity work with discipline construction, talent cultivation and campus culture construction, convey the educational philosophy and spirit of the college, enhance the sense of belonging and identity of teachers and students, and improve the brand image and social influence of the college. However, in the process of integration, we still need to be vigilant about problems such as insufficient adaptability of technology application, increased difficulty in controlling content quality, risks of data security and privacy protection, and lagging talent team building, and achieve the organic unity of "technology empowerment" and "value guidance" through scientific path design and institutional guarantee. This paper combines artificial intelligence technology with the specific links of publicity management in colleges and universities, proposes practical innovative practices and implementation paths, makes up for the deficiency of "emphasizing theory over practice" in existing research, provides theoretical references and practical lessons for the intelligent transformation of publicity management in colleges and universities, and also offers specific ideas and support for

publicity specialists to carry out their work.

With the continuous iteration and upgrading of artificial intelligence technology, the intelligent level of publicity management in colleges and universities will also continue to improve. In the future, the integration of artificial intelligence with college publicity management will present the following development trends: First, the application of technology will be more precise and personalized, and AI tools will be more in line with the characteristic needs of college publicity, achieving "thousands of people, thousands of faces" precise publicity and services; Second, content creation will be more intelligent and diverse. AI will be deeply involved in the entire process of content planning, creation, and optimization. Combined with technologies such as virtual reality and augmented reality, immersive publicity content will be created to enhance the appeal and attractiveness of publicity. Third, public opinion management will be more intelligent and forward-looking. The AI public opinion monitoring system will achieve more accurate early warning and more efficient response, effectively preventing all kinds of public opinion risks; Fourth, publicity teams will become more professional and versatile, with an increasing number of publicity specialists having the ability to apply AI technology, promoting the high-quality development of publicity work. In the future, we should continue to pay attention to the development trends of artificial intelligence technology, actively explore new paths and methods for the integration of artificial intelligence with publicity management, constantly improve our digital literacy and academic ability, optimize publicity strategies and innovate publicity forms in line with the actual needs of the college, so that artificial intelligence technology can truly become a powerful driving force for the high-quality development of publicity work in the college. At the same time, it is hoped that more colleges and universities will pay attention to the intelligent transformation of college publicity management, increase investment in technology, talent, funds, etc., to promote college publicity work to a new level and contribute to the development of higher education. Future research can further expand the scope of cases, conduct in-depth analysis of the integration practices of different types and levels of colleges and universities, and explore more targeted innovative paths; At the same time, focus on the ethical issues of AI in publicity management, further improve the relevant institutional norms, and promote the healthy development of technology application.

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