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Opportunities and Challenges: Transformation of News Communication in the 5G Era (Postprint)

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Abstract

The field of journalism and communication has experienced rapid development in recent years under the influence of communication technologies. 5G technology, namely the fifth-generation communication technology, has greatly propelled the progress and development of this field by virtue of its advantages such as high speed, low latency, and large capacity. In the 5G era, journalism and communication will not only encounter more development opportunities but also face greater challenges. This paper primarily analyzes the opportunities and challenges confronting the field in the 5G era, examines its transformations, and proposes corresponding optimization measures on this basis, hoping to provide certain references for advancing the transformation of journalism and communication.

Full Text

Opportunities and Challenges: Transformation in the Field of News Communication in the 5G Era

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Abstract: The field of news communication has experienced rapid development in recent years, driven by advances in communication technology. 5G technology—the fifth generation of mobile communication—has significantly propelled progress in news communication through its advantages of high speed, low latency, and large capacity. The 5G era presents not only new development opportunities but also unprecedented challenges for news communication. This paper analyzes the opportunities and challenges facing the news communication field in the 5G era, examines its transformation, and proposes corresponding

optimization measures, aiming to provide reference for advancing the reform of news communication.

Keywords: 5G era; communication extension; refined direction; enriched platforms; standardized system

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The advent of the 5G era has propelled China's news communication field into the digital media age, fundamentally transforming online media platforms. During the 3G and 4G eras, network speed and data costs limited news content primarily to text and images. However, the 5G era has triggered a profound revolution in news communication. Online media platforms are now shifting toward video-based and short-video formats, creating an environment where everything can function as a media channel. News professionals must recognize the opportunities that 5G brings to the industry while actively confronting its challenges to facilitate upgrading, transformation, and optimization. A critical question is how to better integrate 5G technology with news communication and adapt to these transformative changes.

1. Impact of the 5G Era on News Communication

1.1 5G Technology Extends the Short-Video News Communication Chain

Short video has become the primary carrier of news communication in the 5G era. As China's economy grows rapidly, citizens' lifestyles have accelerated, making lengthy text articles time-consuming and difficult to digest. Consequently, people increasingly rely on fragmented time to access news, shifting from passive reception to active acquisition. This behavioral change has given rise to short video as a new medium for news dissemination. After several years of development, short video in China is maturing, with a complete production and distribution chain emerging. This process is becoming increasingly professional under 5G's influence. Major traditional media outlets have established presences on short-video platforms, developing sophisticated production and dissemination systems. For instance, People's Daily and CCTV News on Douyin rank first and second in follower count across all platforms, attracting large audiences through professional, positive content. County-level media have also established new media departments—the Qixia Converged Media Douyin account gained nearly 50,000 followers within a year. By leveraging their professionalism and authority, media outlets at all levels have seized 5G opportunities

and actively embraced its challenges.

Short-video platforms serve as the main driver of this ecosystem. For journalists and editors, the key challenge is leveraging these platforms to produce high-quality news short videos that extend communication chains, enhance dissemination power, guidance, and influence, thereby advancing the field.

1.2 5G Technology Refines News Production and Communication Directions

Traditional news production primarily took the form of text-image combinations, television programs, or news websites. 5G technology now offers richer possibilities and broader application scenarios. News can be presented not only as photo galleries but also through short videos, VR, virtual anchors, and other formats that enrich user experience and improve communication effectiveness. The development of 5G has also accelerated artificial intelligence, enabling back-end systems to collect user history and preferences through machine learning. By analyzing browsing records, AI can deliver more specific and detailed content, enabling precise point-to-point dissemination across categories like military, entertainment, civil affairs, party-government, and local news. This intelligent user profiling reduces push costs, improves efficiency, and advances the field. In the 5G era, users demand more personalized and customized content during fragmented time slots—something previous communication technologies couldn't achieve. Now, precise targeting based on occupation, social status, and lifestyle habits enhances user dependence on news and fosters a new point-to-point production model.

2. Opportunities in News Communication During the 5G Era

2.1 Richer News Communication Platforms

The 5G era has transformed news communication from traditional long-form text and images to short videos, establishing a complete short-video communication chain. This shift provides users with richer experiences, allowing them to access news anytime, anywhere, across devices and environments. Numerous platforms have emerged, including traditional news apps and short-video aggregation platforms. While news apps focus on delivering diverse news content, short-video platforms host accounts from traditional and local media outlets that produce news in video format. The 5G era expands news dissemination scope, embodying the “everything is media” concept. To seize this opportunity, the industry must look beyond mobile apps to diversify distribution channels. Smart home devices, wearables, and transportation tools can all become news media under 5G, driving transformation in the field.

2.2 Enhanced High-Definition News Viewing Experience

With its high speed and large capacity, 5G not only promotes short videos but also improves transmission efficiency. Since 2019, 4K live broadcasting has developed rapidly, offering users superior viewing experiences and solving previous problems of low clarity and poor live-streaming quality. High-definition presentation matters in news because of its authenticity and timeliness. On one hand, 5G's high speed ensures immediate news delivery after events occur; on the other, its large capacity ensures that scenes are reflected clearly and truthfully on user devices. News professionals should emphasize 4K imaging technology while also promoting VR and AR news, which have gained widespread adoption. Previously constrained by network speeds, these technologies have matured with 5G, allowing users to enjoy immersive news experiences through networks, cameras, and VR devices. VR and AR represent the best approach to visualizing news authenticity, enhancing user participation and interaction.

2.3 More Efficient News Production

AI technology, widely used for personalized news pushing, has also been increasingly applied to news production. Initially limited to automated news writing with low accuracy, AI now supports video production, lowering barriers for self-media accounts lacking professional journalism or video production skills. This has injected fresh vitality into the field, enabling rapid progress and development.

3. Challenges Facing News Communication in the 5G Era

3.1 Difficulty Grasping the Relationship Between 5G Technology and News

Journalists must recognize that technology serves the news industry and people. During news gathering and editing, they should uphold authenticity and accuracy, applying technology to represent and develop news rather than using it for its own sake. Currently, numerous fake news videos exist online. Lower entry barriers allow self-media accounts to create sensationalist fake news using new technologies, employing exaggerated titles and malicious attacks to attract views—seriously damaging the field. Traditional media must leverage their authority to correct such misconduct. Additionally, easier information collection under 5G means unverified news circulates widely, compromising authenticity and undermining news's fundamental purpose.

3.2 Lack of Standardized Communication Channels in the 5G Era

Lower barriers have flooded short-video platforms with new media accounts. While some gain support by creating relatable content, others abuse their influence to manipulate public opinion and incite negative emotions for profit. Regulatory agencies must collaborate with platforms to strengthen informa-

tion review, warn or ban accounts with negative orientations, and take legal action against those causing serious harm. As information becomes a crucial social resource, the mix of true and false content online necessitates robust legal frameworks for the short-video industry. Delayed action against negative information could result in severe social consequences. National regulators, network departments, and platform managers must jointly conduct pre-publication review, monitoring, and post-event tracing to supervise and control lawbreakers who fabricate news.

3.3 Serious Decline in News Service Quality

News professionals should leverage 5G to provide quality experiences, yet short-video platforms are flooded with homogeneous content. The emphasis on timeliness means multiple outlets simultaneously report the same events, competing for speed. Many underprocessed stories with poor logic and production quality appear on platforms. Some media outlets, lacking information sources, directly steal content from others, resulting in serious plagiarism. In the 5G era, media must focus on personalized development, winning users with high-quality, distinctive content accumulated through long-term work.

4. Transformation of News Communication in the 5G Era

4.1 Developing Professional New-Generation Talent

News is fundamentally technology-intensive, and 5G's application demands increasing numbers of comprehensive talents mastering new technologies. Beyond 5G itself, it drives development in cloud computing, big data, blockchain, and AI. Traditional media severely lack such talent, risking falling behind in video production and communication without proper support. Media organizations must cultivate interdisciplinary professionals who understand both new technologies and journalism. Collaborating with universities and companies to train current staff through professional development programs is essential to overcome technical challenges and advance the field.

4.2 Building Rich and Diverse Communication Platforms

The 5G era offers opportunities where “everything is media” can integrate news into daily life. Journalists must look beyond mobile apps and short-video platforms to build multi-angle, comprehensive distribution systems. With 5G driving IoT development, smart home and wearable devices have become indispensable. News can be seamlessly integrated—for example, combining morning news broadcasts with smart speakers and alarm clocks to automatically deliver updates after waking, enabling seamless dissemination during fragmented time.

4.3 Establishing Standardized Intelligent News Communication Systems

Current news communication faces numerous problems requiring attention. Short-video platforms contain large amounts of negatively oriented, homogeneous content that has adversely affected social thinking. To address this, relevant laws and regulations must be established to punish offenders, while AI technology can automate news review, reducing human and financial costs and improving efficiency. Additionally, enhancing interactivity is crucial—short-video platforms typically include comment sections where residents can participate in news events. Setting up comment moderators can guide public opinion and correct misconceptions. Under an intelligent news communication system, professionals must maintain both order and efficiency, leveraging 5G advantages through personalized intelligent pushing to establish a complete news industry chain with automated and intelligent collection, production, and dissemination—representing a key future trend.

This paper first examined 5G's impact on news communication, then analyzed its opportunities and challenges, and proposed optimization strategies. In the 5G era, China's news industry still faces many issues requiring attention. Only by valuing 5G application, correctly understanding the relationship between 5G technology and news, seizing opportunities, and confronting challenges can journalists adapt to the new situation, achieve great potential, and promote the healthy and sustainable development of China's news industry.

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