

Exploration on evolution of digital media and the ecological system of future media

Wang Xiaoyan, Zhao Hui

Shandong Xiehe University, Shandong Jinan, 250107, China

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Abstract: The increasing updating of information technology has driven the media industry to evolve constantly and realize cross-border integration. This paper will firstly start from mobile media to all-media and then to smart media to expound reflections on reform of digital media; secondly, based on the perspectives of “internet of things+media”, “cloud computing+media” and “blockchain+media”, the possible evolution of future media will be discussed; thirdly, by aid of example illustration, the reform direction and ecological system of future media will be explored.

1. Reflection on reform of digital media

1.1 Mobile media

From passive participation of Web1.0 (static state and one way) to common formation of Web2.0 (interaction and sharing) and then to deep creation of Web3.0 (personality and intellectualization), mobile media have developed constantly and presented its intensive characteristic of “content+social contact+service”, which is also the development trend of digital media in the future. Taking client-side of Alipay as an example, its functions such as life account, subscription account and picture-article twitting reflect true contents; its functions such as life cycle updating and Friend Interaction in Ant Forest reflect its social contact attribute; while its functions of online payment, cellular phone recharging and credit card payment reflect its service attribute.

1.2 All-media

All-media is a kind of fresh communication form formed from deep “integration” of different medium forms (paper media, film and television media, broadcasting station media, network media and mobile media) based on multiple forms of media, which provides multiple modes and levels thus to satisfy subdivided demands of users. For instance, the central kitchen of People's Daily has three functions including all-media information collection, all-media information management and all-media information Abstract. It can realize unified gathering, production, broadcasting and distribution of news programs, and can complete “overall planning, one-off collection, multiple formations, diversified communication, full-time transmission and global coverage” of major reports thus to transform traditional, solemn and stereotyped newspaper contents to be diversified, visualized and three-dimensional to present news events with most flexible way.

1.3 Smart media

Smart media is a high-dimensional stage of media integration, which will change information transmission continuously, drive elimination and restructuring of media boundary and media industry boundary--internet of things will cause large-scale cooperation and sharing of group wisdom in the media transformation process, and massive big data will change the link of “serving the users”; moreover, cheap and effective mobile computing will cause integration and interaction of innovative application scenarios and virtual scenarios; meanwhile, in-depth learning will enhance people's ability and allow equipment to “surpass” humans. Artificial intelligence endows ability of perception and cognition for all living things, and knowledge-driven and interactive “intelligent service” will certainly become the core content for the development of digital platform based on internet in the next stage. Besides, various internet enterprises in the world are also strengthening

their “arms race” in artificial intelligence and have successively launched Google Brain, Baidu Brain, Tencent Super-Brain, Xunfei Super-Brain and Alibaba ET Brain, which will certainly bring overthrown innovation to media industry.

2. Evolution of future media

2.1 “Internet of things+media”

From literal information to digital information, from actual data to internet data, from man-machine interaction to intelligent driving and from real society to virtual space, deep integration of mobile, intelligence and data has made internet of things create a communication atmosphere of democratized production of information and global transmission with all humans’ participation and interconnection of all living things. In the future, “internet of things +media” will gradually transform to reality from imagination, including but not limited to human’s wisdom results or experience and lesson or production and change of all living things, wherein, all living things will be involved in the process of being recorded and uploaded for data analysis and utilization, which will be more diversified, utilized, presented and utilized more rationally. It can be seen that “internet of things +media” will promote content-driven and interactive evolution of computer and the external world, and even it may promote smart operation of external world according to smart contract.

2.2 “Cloud computing+media”

Cloud computing is taken as the most revolutionary technology innovation after the internet, which has brought huge impact and influence on various industries including media industry since its appearance. Nowadays, cloud computing has already been used in various links, such as data collection, cleaning, mining, transmission and presentation, and it has promoted the form and mode innovation of global media industry. In fact, intelligent interconnection not just gathers massive data of users to the cloud side but absorbs wisdom from the cloud side thus to understand the users’ behavior, interest and demand more and finally own super-country capacity.

2.3 “Blockchain+media”

Blockchain is a kind of highly-reliable transformative technology and creates a value transmission mechanism under unreliable network environment, which is re-engineering of bottom logic for the current world and is expected to be upgraded as important “engine” of media industry from “reliable machine”. Vulgarly speaking, blockchain is “account book”, wherein, “behavior of keeping accounts” is database reading, and each “participant” can save complete data, accordingly, the “participants” in news report will be reporters, scientific workers and users. Currently, the media field has begun to explore the possibility of blockchain technology being used in digital right management and rumor governance. For example, base on blockchain to establish intelligent trading platform to reduce infringement possibility to the largest extent; rely on blockchain technology to trace the source and reduce rumor and false news spreading; depend on “network coordination” of blockchain technology to provide a whole set of solution for tracking digital product supply chain thus to make media industry enter multiple-form business mode.

3. Thoughts on reform of future media

3.1 Machine-generated news: make media more intelligent and effective

Machine-generated news is an anthropomorphic term, which refers to the algorithm mechanism for news production or automatic writing software for news. At present, machine-generated news is basically a kind of “man template+automated data filling” mode which fully combines with news element “5W1H”, which can save a large number of human cost, improve writing efficiency, realize continuous work of 7×24, optimize data and material utilization, realize accurate and personalized transmission for target objects. In fact, machine-generated news production is a fresh link of

automated formation of news. From first appearance of automatic news editor in Google to current “Kuaibi Xiaoxin” of the Xinhua News Agency, “Zhang Xiaoming” of Jinri Toutiao and “smart quotation” of Sohu, it bases on users’ interest and historical record to produce and push news, form news page and major news for microblog and product Keywords, which are all presentations of automated news production.

3.2 Man-machine interaction: brings immersive transmission

Man-machine interaction refers to interconnection between man and machine through one certain programming language and special communication mode for one certain objective. In reality, data communication technology progress will make man-machine more true to be close to interaction between man and the real world. Such kind of technology involves human’s body, perception, emotion and culture, which will far surpass the man-machine interaction stage in depth and width.

3.3 Sensor news: redefinition of news source

Sensor is “extension” of human senses. Sensor news refers to a news production mode that using sensing equipment to produce or gather various data for data analysis and visualized processing and then integrate into news report based on certain mode and realize “story telling” finally. “Sensor news” is not a special news type, but takes sensor as a kind of information collection tool in the news transmission link, which means all living things can be news sources, it can be seen that sensor news may become the “new normal” in news production. In fact, it is not unusual to use sensor to collect information and edit news contents, for instance, weather forecast exactly uses sensors on meteorological satellite to collect and transmit data.

3.4 Scenario news: key reform of communication mode

Scenario news refers to placing news into various scenarios through sorting and division in the news service process, which is a fresh information connection mode of mobile internet based on user scenario. In essence, mobile transmission bases on scenario service, namely, perception on scenarios and information matching. Currently, AR and VR have already been applied in our daily life, such as video and audio scenarios of TV and film, 3D film shooting, VR live-broadcasting and exchange, network game and virtual works exhibition, which have been accepted by users early. VR and AR allow an immersive virtual situation to be presented to users instead of audio and video or words only, which can not only make reporters capture news elements more intuitively and practically but also can make readers experience the real scenario more truly and continuously. In modern digital society, the one who attracts attention wins. Scenario news can not just make users feel they are in on the news scene, but more importantly, it will affect cognition of each user on news scene.

4. Ecological system of future media

As the new-generation information technology and application emerge widely, representative by artificial intelligence, internet is entering into the intelligent internet era of wide interconnection and shared coordination from PC internet and mobile internet, and humans will enter into the digital era comprehensively. From searching impracticalities to pursuing practicability, from quantitative change to qualitative change and from integration to innovation, artificial intelligence has changed way of thinking on life, economy and business to certain extent, involving audio and image processing, sensory analysis and processing, meanwhile, more pan-media black technology is coming for us, which maybe not mature or imaginary, but with innovation in internet technology, science and technology can make all above-mentioned become true. Machine intelligence can gather all wisdom of humans and even break through humans’ limitations in some aspects.

5. Conclusion

In the future, artificial intelligence will be everywhere. In the diversified transmission environment created by future media, the users will escape from accepting information passively but own more rights in active construction and content selection thus to realize alternation of “adaptation-non-adaptation-re-adaptation”, which will certainly promote the new production process, transmission process and communication mode of media industry. Besides appearing as medium for information transmission, future media can also connect content, channel, resource, media with user closely, the era of “all things basing on network”, “all things being data” and “all things being media” will come. The new-generation information technology will not only form the format of the whole media industry but also restructure media ecology from micro perspective or control communication of all news.

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