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Research on the impact of digital asset management on broadcast media consumption patterns

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Abstract: *Driven by the global wave of digital technology, the digital assets owned by radio and television media have increased significantly. The traditional media asset management model has been unable to support the scale of digital assets. The digital asset management system has emerged as a required developing tool, and the method of digital asset management has been upgraded. As digital asset management systems are updated, so does the way broadcast media is consumed. In this essay, mainly analyzing the cases from UK, US and China, I suppose Digital Asset Management, which has brought and will bring more benefits and opportunities to the broadcast media industry, has changed the way that audiences consume broadcast media from four different perspectives.*

Keywords: *Digital Asset Management; Broadcast Media; Consume*

1. Introduction

With the continuous emergence of various forms of media and fusion media, audience consumption has shifted from traditional media to streaming media. Ali (2021) proves that people consume more media than at any time in the past decade by surveying people's media consumption from 2011 to 2021. Data shows that the media consumption among U.S. adults has grown by 20 percent since 2011. A survey by Recode (2021) shows that total media consumption will reach an all-time high by 2021 and will continue to rise. From this, it can be inferred that traditional radio and television media, which used to play a dominant role, has given way to digital media. Therefore, the rapid development of digital asset management has promoted the reform of radio and television media and provided more choices and methods of media consumption for users.

2. The definition of DAM and its development

With the advent of the information age and the digital age, digital technology continues to develop and popularize. Digital Asset Management (abbreviated to DAM as follows), as one of the digital technologies, is also a product of this era. Revenues of companies like Netflix and Sling TV are growing, while traditional broadcast media are losing subscribers, which has been a trend that is likely to continue for years. Browsing and managing all these digital assets for consumers and businesses are like taking challenges, so the digital assets generated by these broadcast media should be better managed and used through a system.

Digital assets refer to non-monetary assets that exist in the form of electronic data and are used in daily activities for sale or in the production process, such as images, audio files, presentations, videos, and any other branded content or media that generally have usage rights or licensing requirements. However, these files will come in a variety of formats, including PNG or JPG for images, PDF and Word for documents. Therefore, it is required that the digital asset management platform can support various media file types. In terms of the process of DAM, it is a method that can be systematically used to efficiently store, organize, manage, retrieve and distribute an organization's digital assets, and can also be used in business processes and information management technologies [1].

DAM intends to be a capable tool to expand benefits for business. It can help many organizations create a centralized location where their media assets can be accessed. This system combines computer storage, network, database, multimedia, and other technologies, and mainly solves the problems of multimedia data storage, cataloging and retrieval management, and data query and release. Meanwhile,

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this system provides various key stakeholders with the management of digital assets, thereby enabling these enterprises to obtain more benefits from digital assets.

Dating back to the late 1980s when printers, publishers, and advertisers began to have the ability to digitize text and photography, the notion of DAM was first put forward. Since most hard drives do not have enough memory, these files can only be transferred to external files with metadata, which is the earliest digital asset management. In the early 2000s, DAM started file sharing with the Internet, providing a new way to store and manage files, known as cloud storage. With the development of DAM today, AI technology is implanted into DAM, which makes management more convenient, and can be intelligently marked through video recognition and speech recognition.

Although DAM tends to be used by commercial satellite operators, the systems have been widespread used and tested by public broadcasters as well. The public service model of radio and television focuses on publicity and provides contents and services as a special public product related to people's life, cultural heritage, and value orientation. The British Broadcasting Corporation (BBC) and Swedish Television (SVT) are the main representatives of the public service model of radio and television. It is worth noting that although the BBC and SVT occupy an important position in the radio and television system of the country, they are not the whole of the radio and television system of the host country. SVT is one of the first broadcast and television companies in the world to create and use a digital asset management system for news production and archiving, and it is regarded as a pioneer in the application of digital asset management systems. Similarly, the digital asset management system established by the BBC has attracted attention. During the 2012 London Olympics, the audience's demand for digital content was high, and the BBC timely introduced a digital asset management system called "package". The 'package' system enables simultaneous tagging, categorization, uploading, and live content management, creating an online viewing channel for broadcast media. Compared with Western media, China's media asset management technology started relatively late. China's radio and television digital asset management system is a digital asset management system built by the Central Radio and Television Station. It is fully digital, intelligent, and data-based, and integrates all business processes such as program collection, editing, and storage. This system not only reduces a lot of workload for media workers but also provides people with the functions of repeated playback and playback. Compared with Western countries, China has established a large-scale radio and television digital asset management system, which has realized the life cycle management of information enhancement and fusion of data resources [2].

The present DAM was born out of desktop publishing in the 1990s. In fact, in the mid-1980s, DAMs already had file-sharing capabilities. In the information age, the technology of Western countries has always been at the forefront of the world. The UK established a commercial private independent television network (ITV) as early as the 1950s, followed by Channel 4 in 1982. At the same time, the BBC has also begun to use digital asset management to explore commercialization. Because it is extremely difficult to develop a mature and reliable digital asset management system, the development of modern digital technology is extremely rapid. Therefore, for most Western radio and television companies, the introduction of digital asset management methods still faces many difficulties. Although China started late in technology, it has begun to integrate artificial intelligence (AI) technology into digital asset management to make it more efficient. That said, newer DAM solutions that leverage AI can significantly reduce the time spent on many of these processes. In fact, according to McKinsey, a digital asset management system that works with AI can reduce the time employees spend on such mundane tasks by 40%. From the perspective of the external information environment, in just ten years, communication technology has moved from the era of 3G communication to the era of 5G communication, and the way users access the Internet has also shifted from the PC terminal to the mobile terminal. Compared with traditional media, there are many variables in the digital transformation of new media, and project management is extremely difficult. As for the choice of digital management companies, due to the high cost of digital asset management system development and the unclear definition of the system scope, it is often difficult for radio and television companies to plan and develop a digital asset management system that fully meets their needs [3].

3. The change in platforms and devices to consume broadcast media

In the digital age, especially in the past five years, social media has become platforms for sharing and consuming multimedia content. With the popularity of smartphones, people will almost download one or more social software and media software on mobile devices, as consumers are provided with a variety of consumption methods. At the same time, consumers can access it without being restricted by any device, location, or time. The old time when people have to wait in front of the radio or TV and listen to

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or watch what was offered has gone. Today, consumers content consumers make up the strongest audience that most brands have ever seen. Whether your audience understand the business or not, they will determine the type of content that the company creates, where it is published, and how it is distributed. These changes alter the traditional workflow of editing, distribution, archiving, and playback. To stand out in the fierce competition, a large number of digital asset management systems have begun to switch battlefields and enter the system of mobile devices. In the traditional DAM system, only the daily fixed programs need to be edited. However, when the system enters the mobile client-side, it needs to deal with digital assets many times more than in the traditional model.

According to the MASSADIE (2020) survey, it is found that different age groups have different media consumption habits, and adults between the age of 41 and 55 are the generation that likes watching TV the most. In contrast, students aged 5 to 25 use more media and mainly consume online videos, such as Youtube, and Tik Tok. Groups consuming multiple media types are young people aged 26-40 who typically consume online video and online TV media. Through this data, it is not difficult to find that the consumption of radio and television media platforms in each age group will be affected by digital asset management. It seems that older audience groups are spending more on broadband TV because they are used to the presence of TV. Relatively speaking, young groups are influenced by online video platforms, which will increase their consumption of online platforms [4].

4. The change in the length and frequency of consuming broadcast media

For decades, television has been undisputedly ranked number one in daily media usage. Although the preferred method to consume broadcast media has transformed to online platforms and mobile devices, it does not mean the increase in new methods is simply transferred from the old ones. What really matters is that the total screening time spent on broadcast media, including both traditional and new media, has been increasing with the development of DAM. According to the latest media consumption forecast published by Zenith, people around the world spend an average of nearly 8 hours a day on media. This data is more than ever and will continue to grow. Jonathan Barnardh, head of forecasting at Zenith, believes the media can open up new opportunities for brands to connect with consumers. Therefore, DAM on the mobile Internet will expand the time people spend on media.

Before DAM was on TV, it would be a pity if people missed the show or news they wanted to watch, as they intended to spend time on media but failed. Fortunately, the addition of DAM changed the status quo. Did someone ask on the BBC website how to catch up on missed shows? The BBC replied that users could watch programs you missed on BBC iPlayer for a fixed period of time - usually 30 days - after they aired. Audiences can also download programs and store them on their computers, phones, or tablets at the same time offline. Such information can be checked on the BBC iPlayer help site (BBC, 2022). Therefore, the BBC confirms regular audiences to consume what they want and attracts new audiences by combining live, catch-up, and on-demand syndication, optimizing audiences across platforms, and achieving better viewership ratings. Indeed, DAM can better preserve and manage digital assets, so that consumers are well served and more time is spent on broadcast media. In the era of fragmentation, few people can spare a long and fixed time to watch bubble dramas, and users mostly use digital media to watch short videos to pass the boring rest time. DAM makes the time people watch broadcast TV more flexible and can also integrate the viewing time.

As media consumption grows substantially, DAM will also increase reach and frequency, creating more opportunities for brands to find and connect with potential customers. During this COVID-19 pandemic, the DAM system has played an important role. During this period, the TV medium was faced with the real risk of content, and the concept of cloud recording came into being. China Central Radio and Television Station use various technologies such as 5G, cloud computing and storage, and AI as the main means of program data storage, transmission, sharing, processing, and editing. The content covers all categories and large categories such as news special programs, variety shows, live broadcasts, financial media planning, etc., and builds a unique "cloud communication" ecosystem with large and small screen interoperability, long and short video integration, and multi-platform linkage, demonstrating the advantages of DAM systems [5].

5. The change in the content consumed by audiences

DAM always insists that content is one of the most important factors in attracting consumers. According to Cultivation Theory, in the traditional broadcast TV model, being a viewer is passive.

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Viewers need to passively accept what is broadcast on broadcast television, and there is almost no way to actively choose. As the number of TV channels increases, the variety of TV programs spreads out viewership and leads to a transfer of rights to consumers. For example, "Friends" garnered more than 52.5 million viewers in 2004, but is hardly going to be that high now that people can choose their time. In a fiercely competitive environment, various media are preparing to launch new digital assets to attract audiences and provide audiences with a variety of choices. DAM applications make it easier to collect, manage, and interpret data from multiple sources, giving viewers Jedi options. Viewers can choose any media and watch at any time and place. With the popularity of self-media, everyone can become a creator of digital assets to create content and become a powerful leader.

Along with this, there is the current situation of diversified development of media and faster update speed. Take China as an example. If 2015 is the "year of explosion" of online self-media, then 2016 can be called the "year of counterattack". iQIYI's self-produced drama "Old Nine Gates" became the first online drama in history to exceed 10 billion views; the online dramas and online variety shows produced by many video sites exceeded 1 billion views; many self-made dramas were exported to TV stations in reverse The big lineup, big capital, and big production are becoming the new normal for the development of online dramas and online comprehensives. Therefore, the quality of works has become the most important point for consumers. "Rocky" is a very typical example. Its cost is relatively low, but thanks to the high quality of the content, it has obtained relatively good ratings. DAM will also increase user loyalty and attract customers to buy derivatives. China's online video market has entered the copyright era of "brand-consumer-IP", and income from copyright distribution and IP-derived products has become a new growth point for video platform revenue. To gain more profits, content creators use DAM to monetize their digital assets. Many influencers in Tik Tok sell their videos, allowing others to use their influencer videos to attract fans' attention [6].

6. The change in actual spending and expected spending of audiences

DAM provides broadcast TV viewers with a variety of consumption options while also promotes consumer consumption. Knowledge payment has been a new trend in the Internet industry in recent years. With the changes in people's consumption concept and payment methods, people are more and more willing to accept the behavior of paying for high-quality knowledge. In addition, the increase in life pressure has caused some people's mental anxiety, which makes the payment for knowledge a good medicine for alleviating this ‘urban disease’. The popularization of mobile payment has driven the change in users' consumption concepts and consumption habits. People's acquisition channels for knowledge and content have gradually changed from books and PC to mobile clients. In June 2016, iQiyi announced that the number of VIP members exceeded 20 million; in November, Tencent Video announced that the number of paid members exceeded 20 million; in November, LeTV announced that the number of paid members in the entire ecosystem (including film and television, music, sports, etc.) exceeded 50 million; In December, Youku announced that the number of members exceeded 30 million. Compared with the number of members in 2015, almost every video site has doubled its growth. What excites the industry most is that "content payment" has finally been accepted by more and more users, and the online video industry finally sees the hope of escaping the vicious circle of "copyright and advertising" in the past.

With the general increase in users' willingness to pay, membership income has gradually become the main contributor to the income of online video platforms. For user research, most of them analyze the willingness to pay and consumer psychology, and rarely consider the impact of users' membership choices on the business model of video platforms from the user's point of view. When Tencent Video launched an advanced on-demand event in early 2021, it caused a heated discussion. Based on membership, members can get the right to watch in advance by paying 3 yuan per episode. Even if members need to pay extra for watching the plot in advance, marketers package it like privileges and super membership, which attracts a large number of viewers to consume. This is a very successful marketing strategy by marketers through DAM. Gong Yu, who is the president of IQIYI, believes that the upside of head content is limited, and only self-made content can build a brand. Combining the characteristics of the current popular seasonal video, an evolutionary game model should be constructed in which user members choose to compete with the IP copyright of the video platform, and use the content to attract consumers. DAM changes the platforms and devices for consuming broadcast media, the length and frequency of consuming broadcast media, what audiences consume and what audiences actually spend and what they expect to spend [7].

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7. The benefits and the challenges that DAM has brought to broadcast media

Digitization has boosted the development of digital assets, and the market needs DAM management to drive economic growth. Consumers derive knowledge, entertainment, and corresponding power from digital assets. So, DAM changes the relationship between social media and consumers and creates a closer interaction between product and audience. According to a forecast report on the global digital asset management market (2021), the size of DAM will grow from $4.2 billion in 2022 to $8 billion in 2027. In the development of digitization, the emergence of 5G or even 6G and the combination of the Internet have resulted in more and more types of digitization and an increasing number. Many countries have begun to attach importance to digital asset management. For example, New Zealand has good education and skilled technology in digital asset management, and can understand how to allocate digital resources more efficiently. Rising content digitization, enterprise usage management of digital assets, and widespread adoption of cloud concepts are driving the growth of the DAM market. In a series of development, enterprises need the improvement of the DAM system to put forward better strategic planning for the company. Enterprises' emphasis on digital asset management and the update of digital asset management systems have played a key role in the sound development of the entire digital management market. Therefore, whether it is TV broadcast media or consumers, they are talking about new changes in digital assets all the time.

The DAM market is vast. In recent years, from the laying of the high-speed broadband cable network, the emergence of high-definition television, and the rapidly increasing number of home Internet connections to streaming media represented by Tik Tok, which has a huge number of users. New media paradigms with content at the heart of commerce are created: produced once, then reused and sold repeatedly in different formats, in different markets and channels. The significance of the digital age for media asset management is that the opportunity to reuse the original media content is greatly increased, providing a better way to preserve precious media materials.

This new technology also brings new economic growth points, faster investment returns, and more profit opportunities. The new digital and networked media management methods have become a new driving force for the development of the radio and television industry. With the booming development of digital TV, Internet TV has sprung up, and satellite live broadcasts and high-definition TV are eager to try. How to integrate a large number of precious program resources of TV stations, and how to make other media resources and programs of different formats get a reasonable application have become urgent problems for radio and television practitioners to solve. At the same time, it also prompts those radio and television practitioners with the foresight to realize that no matter what form of media access and broadcasting is adopted in the future, it is inseparable from the operation of the digital asset management system. In the future competition of TV broadcasting media, in addition to the competition within the industry, it will also face challenges from other industries, a more dynamic market environment, and a complex international division of labor. Whoever has more digital asset resources and uses them better will have an active position in the digital asset market. This requires advanced digital asset management methods to integrate various large, scattered, and original digital materials in a market-oriented and branded way to form a powerful digital asset resource that can be used. Then, to achieve this goal, it depends on the implementation of the digital media asset management system. It is also for this reason that the digital asset management system is no longer a simple digital equipment system for production or transmission, but a necessary support system for modern broadcast media operations. It gives media operators a new way of operation and is the core system of digital and networked broadcasting media in the future. Due to the particularity of TV media program data and high storage requirements, it is destined to be dominant and necessary in the application of this industry market. Therefore, it is imperative to use the digital asset management system to integrate the digital assets of broadcast media, and to construct the theory, operation model, and evaluation method based on digital asset management.

8. Conclusion

In summary, DAM provides broadcast media for broadcast consumers according to the background of the times and makes different strategic plans for different groups of people. In the era of fragmented information, it uses cloud technology to solve the problem of consumers watching programs at specified times. At the same time, it has also changed what consumers watch, shifting their focus from broadcast TV to streaming. The most important thing is that it provides consumers with different platforms for consumption reasons and ways to promote consumption. Therefore, the application market of the future world media asset management system is huge. In the field of application, in addition to the photoelectric

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media, it can also involve DAM in other industries, such as audio-visual data media asset system, digital library media asset system, Streaming media resource library, media asset system, etc., will provide consumers with a variety of consumption methods in multiple fields. In short, looking at the actual situation of the current broadcast media industry, the DAM system market is not yet mature, but in the long run, this field has broad prospects for development in the future. The wait-and-see period for DAM has basically passed, and it is about to enter a period of technological experimentation and media content creation. After one or two years, there will be a full-scale development period of DAM. Its arrival may be relatively fast, and its influence will be huge and long-lasting.

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