

Cultural Big Data Platform and Digital Management: Focused on Cultural Contents Industry

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Abstract

This paper examines the change and its meaning of marketing strategy in business administration, which is changing along with the development of digital technology. Unlike conventional marketing, digital marketing is creating new relationships and making changes through a two-way approach rather than a one-way approach between producers and consumers. And these changes are creating new approaches not only in the problems between businesses and consumers, but also in the relationship between public institutions and citizens. In particular, the potential of platforms, which are emerging as important in digital management, is applied to public policies, and efforts are being made to establish marketing strategies for public institutions. One case of this was applied to the cultural contents industry and policy to examine specific measures and visions. The cultural big data platform is in line with digital management and continuously utilizes digital marketing strategies in the public domain, and aims to promote creative work as well as publicize it to citizens and workers in the cultural content industry. The synergy effect that will emerge from the combination of the cultural big data platform and digital management is expected to continue.

Keywords: Digital Management, Digital Marketing, Platform, Cultural Big Data, Cultural Contents Industry

1. INTRODUCTION

The change in digital technology and knowledge production paradigm is involved in the way of producing and enjoying culture and causing various changes in human life. The change in the digital environment, which has brought about diversification of media and content, opens up the possibility of a methodological approach and relationship with various academic disciplines as much as a new technological revolution. In line with this trend, business administration has recently established the concept and theoretical framework of digital management. This paper intends to conduct research on the subject of cultural contents industry and digital management strategy by linking the grafting of business administration and cultural contents studies with digital social change. This paper considers the recent emerging important discussions by approaching the changes in the environment of the times caused by the digital society largely in terms of digital management and cultural contents industry.

With regard to digital management, we focused on research and discussions related to digital marketing. This study examined digital marketing and related strategies that emerged from the development of digital

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technology and the resulting rapid change in the environment. There is a saying that the flower of business administration is marketing, and the proportion and importance of marketing in business administration is very large. Marketing refers to the business activities related to the distribution of goods or services by producers to consumers. However, due to the development of digital technology and the rapid change of the environment, the term digital marketing has appeared, and the marketing techniques of companies are already changing innovatively in the digital era. Companies are already implementing a rapid strategic shift from traditional marketing to digital marketing, such as social media marketing, mobile marketing, and data marketing [1]. Therefore, in this paper, the barriers of time and space, which act as obstacles in existing marketing activities, are breaking down and companies and customers are newly interconnected. In this paper, we will read in depth the new trends of modern business administration along with the core issue of digital marketing.

In relation to the cultural contents industry, which is another axis of the research topic, we have considered cultural big data, digital cultural contents industry and related platform strategies. In this regard, the discussion was examined by examining more specific contents through the cases of Korea and Europe. The cultural contents industry as a cultural big data-based cultural policy, which is attracting attention as one of the areas for the development of the cultural contents industry in a digital environment, is becoming more and more prominent in its importance and application methods. One thing to pay attention to here is the platform. The platform is already taking its place as a new business model in a changed environment due to the development of digital technology, and its importance and utility continue to be highlighted not only in companies but also in the public domain. The contents that we want to examine in detail through the examples of Korea and Europe are all measures to revitalize the cultural contents industry using platforms. We would like to review the contents of the platform and the cultural industry, which are continuously evaluated for their importance and potential.

2. DIGITAL ENVIRONMENT AND MARKETING

Marketing is not just a sales promotion activity. The term sales refer to making and selling products from the point of view of a supplier, whereas marketing refers to designing, making, and providing products from the point of view of consumers rather than suppliers. It contains an important shift in perspective to identify the needs of consumers and provide products or services that fit them [2]. Ultimately, the essence of marketing is not to simply sell products and services, but to develop products and services that satisfy the needs of consumers and deliver their values to the customers concerned. In other words, marketing can be said to be the activity of correctly connecting customers, products/services, and channels [3]. All companies develop products and provide services to solve the inconvenience of target customers and satisfy their needs. What kind of utility products and services provide to customers is the core value, and the first step in marketing starts with providing products and services that provide these core values. In addition, it can be seen that this kind of marketing is not only carried out by general corporations but also by various public institutions of the government. This is because, in terms of identifying the needs of citizens and providing services to them, it can be seen that marketing is clearly used.

However, a new change is taking place in marketing right now. This is because the digital environment is changing rapidly due to the development of digital technology. And the changed marketing tailored to these changes in the environment is called digital marketing. It is not an exaggeration to say that traditional marketing in the past, when the development of digital technology did not take place as it is now, was in fact a one-sided injection method between companies and consumers. Through four main channels, namely TV, radio, newspaper, and magazine, companies have been one-way advertising their products and services to consumers. However, with the development of digital technology, various online channels including the Internet are activated, and marketing channels are also changing. The online marketing method that transcends time and

space is different from the traditional marketing method in that it brings two-way communication between companies and consumers. This change shows that producers, sellers, and consumers are interactively connected through various types of networks online to the extent that the term network marketing has appeared. In addition, the above four channels in traditional marketing had to be dominated by companies with huge capital. This is because capital was an important factor in leading powerful marketing. However, in digital marketing, through the online method through the Internet, it is now possible to use marketing strategies more easily than in the past, even without strong capital. It is now possible to expect extraordinary marketing effects at a low cost. This is also a big difference between digital marketing and traditional marketing.

The following is a closer look at the changes in marketing caused by the rapid development of the digital environment. The change in marketing method called digital marketing is due to the development of digital technology. For example, a web browser, a smartphone, a game, etc. are representative examples of Internet-based devices. As technology advances and many devices are connected to the Internet, the potential of digital marketing is gradually being realized. More specifically, digital coupons, smartphones, the Internet, e-mail, etc. include all commercial activities in which products using digital technology are used. Digital marketing is a broad framework that looks at all the various fields of marketing that have been created due to changes in various devices and platforms, such as content marketing, social marketing, app marketing, and online marketing. Also, online banner advertisements, e-mails, keyword advertisements for search engines, SNS advertisements, product reviews posted online, and blogs that provide detailed product information are being used. In addition, there were also very diverse ways to use digital media, such as reviews from amateur enthusiasts and comparative evaluations with other products, videos introducing technologies that are used in a completely different way from the intended purpose of the product, and long promotional materials that extremely emphasize the features of the product [1]. It is no exaggeration to say that all these changes speak of the continued potential of digital marketing. In the end, compared to traditional marketing, marketing that was forced and one-way in the past is changing into a new type of marketing, that is, interactive marketing based on real-time participation and voluntary action.

Another concept that shows the characteristics of digital marketing is crowdsourcing. Crowdsourcing is a concept that is directly related to the ecosystem of collective intelligence. Collective intelligence is a collective ability obtained as a result of intellectual ability obtained through cooperation or competition between multiple individuals [4]. This refers to a knowledge partnership where several people put their heads together, share their knowledge and find solutions. It is a recent thing that collective intelligence has been activated in creative and marketing responses including advertisements. In particular, at the center of this is the philosophy of crowdsourcing that you can collaborate with anyone on the planet. Crowdsourcing is an ecosystem where you can find what you want anywhere in the world and work with anyone in the world. Therefore, you can get the most efficient and great ideas in the web world. Crowdsourcing companies that take advantage of these advantages are continuously appearing, and a representative global company is Crowdspring. Crowdspring is growing in the online marketplace, offering logos, graphics, and naming, as their slogan reveals [5]. In Korea, companies like Kmong have appeared and are entering the marketing and online markets using collective intelligence. In the end, the emergence and growth of digital marketing connects companies and consumers in a two-way manner, rather than unilaterally, and as it develops into a network platform using collective intelligence, the infinite potential of digital management in the digital environment is realized.

3. PLATFORM STRATEGY AND DIGITAL MANAGEMENT

The changes in the digital environment due to the development of digital technology have been reviewed above to show the emergence and growth of digital marketing. To the extent that digital marketing is called network marketing, it can be seen that companies, sellers, and consumers are connected to each other to form

a different type of platform than in the past. As a result, the term platform business emerged, and companies such as Google and Amazon are being mentioned as representative companies leading the platform business. In this chapter, we intend to examine the meaning and characteristics of platforms as an extension of digital marketing. The new platform business created by the change of the digital environment is already developing a public platform strategy in the public domain as well as various private companies, and its importance is expected to continue to increase. A platform may seem like a simple concept, but it is a very innovative concept that is changing business and economy as well as society. The pipeline of the past can be understood as a concept in contrast to the platform. In a pipeline, the creation and movement of value occurs in stages, with a producer at one end of the pipeline and a consumer at the other end. A company first designs a product or service. It then operates a system to manufacture and sell a product or provide a service. Finally, a customer purchases a product or service. This linear form of pipeline business has been used in other words as a linear value chain [6]. However, this linear form of pipeline business is changing into a new form of business model called a platform due to changes in the digital environment, and its evolution is continuing.

Originally the term platform literally means a place where people get on and off the train at a station. In the past, railway stations served as a quick link between cities. Through train stations, people living in different places were able to interact with each other and create more needs and values for each other. The traditional platform symbolized by a train station is creating a new digital platform due to the development of digital technology. Digital technology is maximizing the scope, speed, convenience, and efficiency of the platform. Internet-related technologies are providing today's platform companies with an opportunity to change the industry [6]. The most important purpose and feature of the platform is to enable all participants to create value by connecting users and exchanging goods, services and social currencies. First of all, platform businesses can grow much faster than traditional businesses because they create value by leveraging resources they do not own or control. Platforms also generate most of their value from the communities that use their services. Platforms blur business boundaries and allow traditionally inward-oriented companies to shift their focus outward. Therefore, the emergence of platforms has already brought many changes to major industries and is expected to continue to lead changes in the future. The effect of the platform due to the characteristics of these platforms can be summarized into four categories [7]. These are the network effect that connects each other's values, the effect of reducing transaction costs, the effect of making the platform brand my brand, and the reputation system built with user participation.

In particular, the platform maximizes the characteristics of the network effect. Network effect is the impact that multiple platform users have on the value created for each user. However, it is necessary to consider the situation in which both positive and negative network effects are possible. A positive network effect is the ability of a large, well-managed platform community to generate significant value for each platform user. Negative network effects, on the other hand, refer to the potential for poorly managed platform communities to undermine the value they create for each platform user. The vague expectation that the platform can always create a win-win environment for all users with positive features suggests that we need to be wary of it. Google and Amazon have been mentioned as representative companies that are attracting attention as platform businesses. However, another characteristic of the platform is not just the emergence of giants such as Google and Amazon, which are leading these giant businesses. This is because small platforms called micro platforms are also emerging as a new form of platform business. A typical example of a micro platform is the use of apps. The development of various apps is mainly utilized by mobile devices. The Google Play and Apple App Store platforms have created a huge business ecosystem of individuals, businesses and app buyers who develop and distribute apps. Here, the app itself has the characteristics of a platform. As the mobile ecosystem provided by Google and Apple, which are huge platforms, is activated, micro platforms are also being activated. These micro platforms are a new innovation in that they are forming a business ecosystem.

The network effect of the platform was mentioned earlier. The positive network effect is creating innovation in which knowledge and know-how are also traded through the platform. Network platform business such as Kmong in Korea is a good example. Crowdfunding that finds investors with good planning alone, crowdsourcing that improves corporate activity through the contribution of participants, and a shared platform that utilizes one's talents or resources for the social and public good are positive platform innovations. It is expected that the open business model will continue to develop in terms of developing a part so that consumers or the public can participate in the entire process of corporate activity, improving the business activity ability with the contribution of the participants, and sharing the profits with the participants. In addition, the participatory outsourcing model in which customers and users, including external non-professionals called crowdsourcing, participate in problem solving and innovative idea development work can also be seen as a positive development form of collective intelligence that maximizes the network effect, which is also expected to continue to develop.

4. CULTURAL BIG DATA PLATFORM AND CULTURAL CONTENTS INDUSTRY

The efforts of many countries to foster the digital cultural contents industry through cultural policies based on cultural big data are becoming an important part of seeking the development of the cultural contents industry and establishing policies in the current situation and the rapidly changing digital environment. In our age, where information is valued like crude oil, anyone can create new added value by using big data. In particular, various types of information produced in the public domain are very useful to create added value in that they guarantee reliability and professionalism. Cultural big data implies public big data that includes cultural data from the central government as well as local governments such as performances, exhibitions, cultural assets, tourism, cities, and sports. Cultural policies determined using cultural big data are expected to contribute to the development of the digital cultural contents industry, which is drawing attention in the post-corona era. Therefore, it will be very important to discuss how cultural policies based on cultural big data can be utilized for the growth of the digital cultural contents industry. For this reason, discussion on the meaning and use of the cultural big data platform is considered to be very important for the search for value and use as a new source for the growth of the cultural content industry.

Europeana in Europe is the most leading example of fostering the cultural contents industry based on cultural big data. Europeana is being presented as an important case in the platform strategy of the cultural contents industry. It aims to provide cultural enjoyment to European citizens and to create new businesses for entrepreneurs through the European cultural heritage platform. Europeana is being used as an important driving force for the construction of a creative Europe, and is encouraging the production of creative contents by turning cultural heritage data into cultural big data. In other words, by digitizing European cultural heritage, it is intended to serve as a powerful source for the enjoyment of citizens and the growth engine of creative industries. The Europeana project, which aims to revitalize the new cultural contents market, aims to become a bridgehead for the creation, production and distribution of European cultural contents by maximizing the size of suppliers and consumers. Supporting circulation of cultural contents production and marketing is also an important function. Through transnational cooperation in Europe, vast cultural heritage data are collected and provided to promote the production, distribution, and consumption of products and services in the cultural content market [8]. The idea of digitizing European cultural heritage to secure a new distribution route with low distribution costs is in line with the marketing strategy in digital management. In particular, this work, in which consumers and companies break away from the traditional marketing concept of the past and create a creative ecosystem through a single platform, seems to be a leading example of the positive potential of the cultural big data platform as a public platform.



Figure 1. Europeana: European cultural heritage platform

Europeana presented the main components of collection, promotion, dissemination, and participation as a platform strategy [9]. It aims to build reliable and open information for European cultural heritage and to enhance the creative reuse of data. In addition, it aims to promote innovation and change in cultural heritage, change the way of thinking, and maximize the advantages of a network platform. Under the principle of interoperability, it shows the strategy of utilizing cultural big data based on digital platform regardless of time and place as a fair place of creation where all platform users can benefit [10]. All Europeana users can use the data for their own development as well as for the conception and utilization of new projects. From the perspective of the cultural content industry, content providers, institutions, stakeholders in the creative industry, educational institutions, and those engaged in tourism are all expected to have a wide range of ripple effects and outcomes in the future. In particular, iPhone and Android devices, which are important devices for digital platforms, are expanding their apps across Europeana Open. The policy flow of promoting Europeana and actively utilizing it through various SNS such as social media is also directly related to digital marketing.

Korea Culture Information Service Agency (KCISA) is also building a platform strategy based on cultural big data like Europeana. KCISA is a public platform institution that connects people, culture, and information, and is in charge of information matters in cultural policy. Six key strategic goals are presented as follows [11]. These include expanding the use of cultural information platforms for the public, strengthening the cultural data utilization system, upgrading cultural information resource support services, establishing the foundation for cultural informatization, providing new cultural information services using 4th industrial revolution technology, and promoting creative management innovation based on win-win. Under this core strategy, KCISA is building the provision of cultural information so that people can conveniently find various cultural information, news, and various materials by field. For example, KCISA is preparing to provide a service by collecting cultural big data by subject, such as performances, accommodation, leisure, food, commercial districts, and book publishing. This is because it is believed that it is possible to create new values using cultural big data by providing national cultural facilities, cultural tourism consumption attributes, accommodation restaurant usage rate, and cultural trend data. In addition, it is trying to strengthen its function in both aspects of constructing and utilizing cultural big data. Cultural data construction is to build high-quality cultural data such as cultural assets 3D printing and font image DB so that it can be used in various new industries. Cultural data utilization includes start-up consulting and business cost support for prospective founders, start-up companies, and SMEs that use cultural data and public works. This ultimately aims to contribute to the revitalization of the cultural industry and the improvement of the quality of life of the people. KCISA is seeking ways to build and activate a cultural big data platform by making the above more concrete. In particular, the need for promotion is presented in four aspects: social environment aspect, cultural leisure aspect, cultural industry aspect, and data aspect [12].

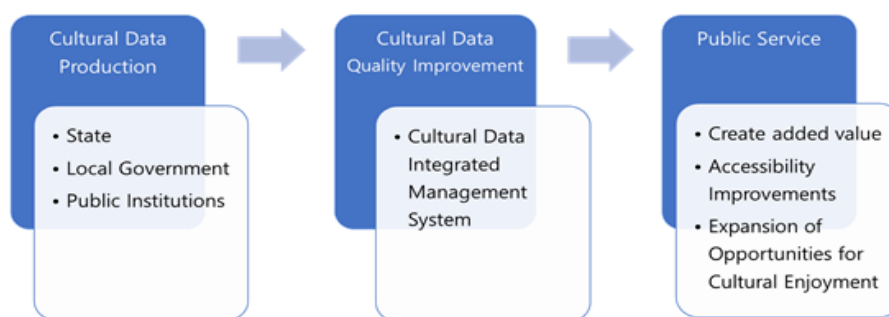


Figure 2. Integrated cultural data management

In terms of the social environment, changes such as the emergence of millennials and an increase in the elderly population are considered to lead to the expansion of cultural consumption in the future. The cultural and leisure aspect is the need to respond in the cultural field to improve the quality of life of each citizen. In the cultural industry aspect, KCISA is considering securing the future competitiveness of data in the era of the 4th industrial revolution. It is to help the Korean Wave contribute to the creation of a sustainable environment for exchange, cooperation and coexistence. In the data aspect, in the era of the convergence of startup ideas and technologies with data to create an ecosystem, the aim is to more actively promote the data distribution market through the revision of the law. According to this necessity, the cultural big data project promotion plan is as follows [12]. First, there is the need for digital innovation. It aims to develop innovative technologies related to the 4th industry, such as big data, artificial intelligence, the Internet of Things, and the cloud. In particular, the need for a data-centric transformation of culture-related policies is reflected. Second, there is the need to open public data. By enacting the Act on Promotion of Provision and Use of Public Data, KCISA intends to promote the provision and use of various methods so that the public can easily and conveniently use cultural public data. Third, there is a need to foster a convergence cultural industry. KCISA is trying to create a new industrial ecosystem in line with global trends such as K-Pop, tourism, and food convergence. Such promotion of the cultural data utilization ecosystem is expected to create a system that can be specifically utilized, such as creating a new business industry environment, for example, establishing a consumer-oriented customized data supply system, processing and convergence of cultural data, and supporting cultural startups based on cultural big data. This is to solve the problems caused by the distributed platforms of public institutions in the past. For example, this is to solve the problem of integrated establishment and management of policy plans, the problem of taking a lot of time and resources to grasp the results of policy implementation, and the lack of a window for comprehensively collecting public opinions [13].

This is expected to have the following expected effects. Broadly speaking, it is to discover policies that can be used at the forefront of national cultural life through real-time data, and to converge technology and cultural resources and strengthen capabilities through the use of cultural big data. The government is envisioning early achievement of data-based policy formulation. Through customized policies, the quality of life of the people can be improved and the satisfaction of the people can be improved. In addition, it is envisioning to strengthen the Korean Wave industry and build a cultural powerhouse through the establishment of effective Hallyu policies. Ventures and SMEs expand the market size through the development of innovative services by creating a data industry. Economic ripple effects can also be achieved through job creation for data industry workers. Data polarization can also be prevented through support for small and medium-sized enterprises (SMEs) that are difficult to obtain data and policy information. The public improves the people's right to know through participation in and perusal of policies in the cultural field. In addition, smart cultural life and leisure experiences can be enjoyed by providing data-based comprehensive cultural information service.

5. CONCLUSION

This paper examines the change and its meaning of marketing strategy in business administration, which is changing along with the development of digital technology. Unlike conventional marketing, digital marketing is creating new relationships and making changes through a two-way approach rather than a one-way approach between producers and consumers. And these changes are creating new approaches not only in the problems between businesses and consumers, but also in the relationship between public institutions and citizens. In particular, the potential of platforms, which are emerging as important in digital management, is applied to public policies, and efforts are being made to establish marketing strategies for public institutions. In particular, one case of this was applied to the cultural contents industry and policy to examine specific measures and visions.

The two cases discussed above, Europeana and KCISA, ultimately want to contribute to the continuous development of the cultural contents industry through the cultural big data platform. Of course, along with this, it can be seen that the basic goal is to contribute to the cultural enjoyment of citizens through the platform on which the digitalization of cultural information and cultural heritage has been established. The cultural big data platform is in line with digital management and continuously utilizes digital marketing strategies in the public domain, and aims to promote creative work as well as publicize it to citizens and workers in the cultural content industry. Many countries are already clearly aware of the meaning and importance of culture as a next-generation growth engine, and are seeking various ways to realize it. And, as seen above, many countries are trying to drive national growth through culture by introducing a platform strategy due to the development of digital technology. The synergy effect that will emerge from the combination of the cultural big data platform and digital management is expected to continue. Of course, for the continuity of this, new and excellent research and policies must be continuously conceived and realized.

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