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Analysis on the Current Situation of Sports Mobile Application Research

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Abstract：*Sports mobile applications refer to sports-related apps and column for sports in other apps, such as Health Mall, FanBar and more. Since 2014, the academic community have published papers related to sports mobile applications, which are research hotspots and difficulties. This paper has mede some collections, sorts and analyses to over 200 literatures with regard to sports mobile application from 2014 to 2018, trying to draw a conclusion about the status quo, problems and thinking from research on sports mobile application status at internal and abroad. This thesis will, based on the previous studies, further explore the future research directions and highlights of sports mobile application, and give suggestions for future research.*

Keywords: *sports mobile applications, app, research, status quo*

Introduction

Sports mobile applications refer to sports-related APPs and sports sections in other APPs. For example, live sports events: Kanqiu Di, Tencent Sports, Penguin Live, Live Bar, etc.; fitness services: KEEP, Hot Fitness, etc. Sports section in other apps, such as WeChat sports in WeChat, sports section in QQ, health data in Alipay, etc. Since 2008, a wide range of sports-related apps ushered in a spurt of development, and various research papers on sports mobile have also sprung up. What are the results? What are the shortcomings of the research? What needs to be done? This requires our reflection. In order to further do a good job in the research on sports mobile applications, and enhance the role and influence of sports mobile applications on sports psychology, physical exercise, and sports culture communication. This research has collected and sorted out the papers and literature on sports mobile applications in the past five years, trying to analyze the limitations of current sports mobile application research and the necessity of continuing research, as well as thinking and suggestions for future related research.

Research status of sports mobile applications

We collected 248 relevant literatures by searching through databases such as CNKI and web of science, using "sports app", "sports mobile application", and "Mobile Application" as keywords.

In terms of time, these documents are concentrated in the five years from 2014 to 2018, and the results of the corresponding papers lag behind the development of mobile applications in the market. Compared with news and social mobile applications, the research time of sports mobile applications is earlier. The research on

sports mobile applications in the data collected in this article began to appear in the "Formation, Development and Development of Sports Mobile Applications" published by Wang Zipu in 2014. Prospects", this article introduces the development, classification and characteristics of sports mobile applications.

In terms of quantity, the number of documents is increasing year by year, and in the first half of 2018, it exceeded the sum of all the numbers in 2017. This shows that sports mobile applications play an increasingly important role in society and the development of the subject.

From the distribution of disciplines, it is mainly concentrated in physical education and journalism communication. Physical education has the highest proportion, accounting for 68.08%, followed by journalism and media, accounting for 14.55%. Other subjects such as computer software and computer applications also account for a certain proportion.

From the perspective of research institutions, professional sports colleges are the main force in sports mobile application research. Authors from the Beijing Institute of Physical Education, Shanghai Institute of Physical Education, Wuhan Institute of Physical Education, Chengdu Institute of Physical Education, and Xi'an Institute of Physical Education account for 37.2% of the total. This also reflects the specialization of the research. It also reflects from the side that this is a frontier and hot issue of physical education.

From the content point of view, it mainly focuses on application characteristics, classification, function, communication effect, attitude and behavioral influence on physical exercise, business model, etc.

From the perspective of research methods, it is mainly questionnaire survey method, literature review method, mathematical statistics method, and logical analysis method.

From the perspective of research ideas, 18.5% are case studies, 81.5% are macro analysis studies, and there is no review-type research.

Research questions and thoughts

Research lags behind practice, and the depth and breadth of research are not enough

Sports mobile applications are a rapidly developing and rapidly changing field. Some applications are still very popular today, and they may be out of date tomorrow and be replaced by other applications. For example, after the rise of WeChat sports, many previous running counting software disappeared from the market. A lot of research has the characteristics of the occasional style, analyzing a relatively popular application, without deep thinking about this industry and industry.

Taking the research on the classification of sports mobile applications as an example, many scholars have proposed a set of classification standards, but they have not established a scientific system, and have failed to establish a unique academic direction and academic field. Most scholars mainly classify sports mobile applications according to the content or purpose. Wanwan Zhou (2016) classified according to user needs and

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their own content, and divided sports mobile applications into news, entertainment, and fitness. Zipu Wang (2014) divided sports mobile applications into six categories, namely sports news information, sports tool services, sports video, sports social, sports e-commerce, and sports games (Wang & Yao, 2014). Aisha Wang (2016) divided sports mobile applications into sports video, news aggregation, social, and teaching guide (Wang, 2016). Hong Cao (2016) divided sports mobile applications into coaching, fitness, venue, running and other categories.

Although there is no clear and specific standard for the classification of sports mobile applications, most researchers classify themselves according to the purpose and content of the research. It is precisely this kind of speculative observation and discussion that can establish a recognized classification standard and further deepen this research field.

Research results are difficult to apply to practice

In the research on the development strategy of sports mobile applications, most researchers believe that sports mobile applications should improve innovation capabilities, improve functional applications, and strengthen supervision and management (Lu, 2018). Starting from the user experience, abide by the principle of "simplicity" and the concept of interaction design, pay attention to the service body, improve user experience, clarify positioning, focus on cooperation, increase technological innovation, improve professional skills, and adjust marketing strategies (Wu & Zhang, 2016). Many researchers conduct research on development strategies based on different types of sports mobile applications. Ling Jiang (2018) put forward the development strategy of sports news App event dissemination: control information pollution, guide the public opinion of the audience; innovate information dissemination mode, strengthen copyright awareness; explore the highlights of the event, do a good job in news planning; guide content creators to participate , Compete for exclusive content; Combine advanced technology to enrich the form of event communication. The results of these research and development strategies are basically the consensus of sports mobile application developers, and it is difficult for this kind of general strategy research to exert practical application value.

At present, there are many researches on physical exercise attitudes and behaviors in sports mobile applications, and the results are relatively fruitful. Research on this type of issue is mainly concentrated on the master's thesis of sports major or journal papers reprocessed and published by the author based on his master's thesis. However, in the news media, it is difficult to see that such research is transformed into the dissemination of the masses, so that the masses will pay attention to and love physical exercise, and play a practical role in promoting our national fitness.

Pei Chen (2016), Qinlan Huang (2016), Nan Li (2017), and Xiping Wang (2017) believe that sports mobile applications have a significant positive impact on attitudes and behaviors of physical exercise. It has a significant impact on the public's physical exercise frequency, exercise time, exercise intensity, exercise venue, organizational form, and sports consumption; the impact of sports apps on implicit sports behaviors is mainly manifested in the existence of sports needs, sports motivations, and sports attitudes Significant differences have no significant impact on sports values (Li, 2017).

Jingjing Fan (2017) obtained the opposite result in the study of attitude and behavior of physical exercise.

Her survey of 374 white-collar women in Zhengzhou showed that 60.96% of white-collar women believe that sports and fitness apps have no effect on their fitness awareness; 56.95% of white-collar women believe that sports and fitness apps have no effect on their fitness habits. It is concluded that sports and fitness apps have little effect on the fitness awareness and fitness habits of white-collar women in Zhengzhou.

Such interesting research results should be packaged into stories and disseminated to the public, so that everyone can truly realize the value and charm of physical exercise, and improve the sports culture atmosphere and the public's physical quality. The promotion of research results and the interdisciplinary combination of journalism and communication have more practical value.

The content of the research is mostly focused on the effect, and the suggestions for the development of mobile applications are insufficient

The suggestions of most papers have fewer analysis words, and tend to describe the phenomenon without a speculative summary.

For example, many papers have put forward the characteristics of sports mobile applications, such as: personalization, customization, accuracy, diversification, visualization, fun, timeliness and other characteristics. Xiaofei Xie (2018) mentioned in "Sports News App's Dissemination Advantages and Development Trends-Taking Tencent Sports as an Example" that sports news apps emphasize the timeliness of content; sports detection apps emphasize the accuracy of positioning technology Sex, pays more attention to the personalization and customization of APP; Jie Ma (2016) researched that sports mobile applications that provide live events should strengthen information dissemination High precision in the process. Xiaoxi Shen (2018) conducted a case study of "Understanding the Ball" and found the characteristics of short video content dissemination in virtual communities: the vertical positioning and fragmented narrative logic of community short video content meet user needs; the differentiated style of community videos guides audience recognition; The multi-dimensional video presentation mode of community short videos strengthens the online and offline interaction (Shen, 2018).

However, this description is based on facts and does not put forward constructive views on the future development of these applications. How these different sports mobile applications should improve their products according to their characteristics and the needs of the audience, and promote the development of products, the existing research rarely conducts in-depth analysis.

Insufficient attention from social groups as a whole, and low quality of some research papers

As for the research on the attitude and behavior of physical exercise in sports mobile applications, there are as many as 10 topics about college students. The survey subjects of Qinlan Huang (2016), Pei Chen (2016), Nan Li (2017) and Xiping Wang (2017) are all college students, and the user group of sports mobile applications is far more than college students, which reduces the value of the conclusion.

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Most researchers mainly use the questionnaire method for research, and the design of the questionnaire is arbitrary, the questions raised are too superficial, the reliability and validity of some questionnaires are questionable, and no in-depth analysis is carried out in data processing. When combing the related literature on sports mobile applications, it was found that some papers were inconsistent in their general arguments and arguments, and the logic of the articles was confusing and lacking in persuasiveness. Some of the arguments in these papers are the author's subjective assumptions. There is no common attribute between the arguments and the arguments, and there is no inherent causal logical relationship. These papers are mainly concentrated in some master's theses and journal papers with low impact factors

Suggestions on sports mobile application research

Increase interdisciplinary perspectives and thinking

There are few interdisciplinary collaborative researches in the existing literature. Most of them look at the problem from the researcher's own field, and the problem is very valuable, but because the ability of a single researcher is limited, the problem is often discussed in general, and the actual value of the problem solving is not great. For example: in the research on sports mobile applications, mainly researchers in sports, media, and computer related majors. Sports professional researchers have raised questions from the perspective of sports training. If they can cooperate with computer professional researchers to research operability The solution, research value will be greater, but unfortunately there is almost no such cross-cooperative research.

Regarding the dissemination mode of sports mobile applications, researchers generally believe that it has gone through the following three stages: 1.0 Mode: simple integration of information from mobile phones, outdated in form and poor dissemination effect. 2.0 Mode: The information in sports applications has storytelling and more distinct functions, but the production technology is immature and the form of expression is rigid. 3.0 Mode: The first stage is the popular dissemination mode of sports mobile applications. The dissemination content combines hot news, public welfare, festivals, etc., that is, the characteristics of purposeful privacy.

But from the perspective of journalism and communication, the dissemination mode of sports mobile applications should be consistent with the dissemination mode of the mobile application itself, which itself is also a process of integrating traditional media to new media. From simple information integration to more advanced integrated news, this process is also worth learning from sports mobile applications. Among them, there are a large number of high-quality topics that can break through the existing research paradigm and framework. Conduct a series of interdisciplinary research.

You can also conduct interdisciplinary research in conjunction with the development direction of mobile applications. Including: sports technology, computer programming, aesthetics, psychology, statistics, marketing and other fields involved. The development, marketization, and upgrading of sports mobile applications is a systematic process. The optimization of this intermediate link requires the cooperation of multiple parties.

Combining reality, research results should consider actual value

A large number of documents have put forward the "pain points" of the user experience of sports mobile applications, such as stuttering, GPS positioning accuracy, and inability to use offline. The literature only raises these issues, but few documents can elaborate on specific measures for improvement. Researchers should start from the purpose of serving the society and bring economic value to the sports mobile application, based on the needs of users, find the "pain points" of the needs, and put forward suggestions for improvement or specific improvement plans and technologies, which is of greater significance.

Further research on improving users' scientific use of sports mobile applications. Few literature mentions this direction, and most studies support the view that fitness mobile applications have a significant impact on people's exercise awareness and exercise behavior. Further research on users' scientific use of fitness mobile applications may have a more positive impact on users' exercise effects.

The scientific research results are fed back to the operator while testing the actual value of the research results. Some scholars have developed countermeasures for NetEase APP sports events: optimizing the dissemination information of events, and innovating the development of live broadcast programs; exclusive planning and development of event highlights, and celebrity effects drive brand building; intelligent logical thinking eliminates homogeneity and broadens the vision of event information dissemination; VR live broadcast technology experience, scene intelligent and innovative thinking. Some scholars put forward development strategies for WeChat sports APP: perfect content design and functional services, and become a user health management tool; attach importance to user needs and increase scientific fitness guidance; further strengthen publicity and marketing, broaden marketing channels; combine online and offline, and plan Carry out rich user activities. For example, in the study of some cases, many scholars have proposed various development strategies for Hupu APP, such as layout and section breakdown. Reduce the trouble of passive screening of information by the audience and improve the browsing efficiency of the audience; introduce the community thinking of Hupu Sports; improve the interaction between the media and the audience, and strengthen the communication between the audience; introduce the non-news characteristics of Hupu Sports. Whether these suggestions are being made and whether they have practical value. We believe that such research should submit the research results to the research object, and write the feedback of the research object as a paper or article to verify and make it produce actual social value.

Strengthen reflection and propose professional strategies

There are many types of sports mobile applications, with mixed good and bad. Since its development in 2008, there have been many problems, and the research results on the defects in the development of sports mobile applications have been fruitful. From the perspective of research on the development of sports mobile applications, information content lacks innovation, functional applications are more women-oriented, functional applications need to be improved, lack of a complete regulatory system (Lu & Xian, 2018), technical flaws (Shi, 2017), and interface jams are often encountered during updates (Latency, Caton), single profit model, too young application development, unscientific "scientific" guidance, and inability to use offline. Judging from different types and cases, fitness apps are not accurate enough to record exercise data,

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have relatively simple functions, and are not smart enough (Wang, 2017); sports fitness service apps still have not broken through the shackles of traditional fitness methods, and cannot well occupy the current Fitness market; sports monitoring apps have serious homogeneity, GPS positioning is inaccurate, data statistics are inaccurate, advertising placement, etc.; sports news App event propagation is excessively entertaining to cover up professional voices, content homogeneity, and the carrier itself There are hidden risks. These research results are related to the entire ecosystem of sports mobile application operations. Professional researchers should start from their areas of expertise, strengthen reflection, and propose valuable strategies for improving sports mobile applications.

There are few studies on business models, and research in this area should be strengthened. At present, the popular business model of sports mobile is the 020 model that combines online and offline, combined with the re-experience model of smart wear, and the "resource + content + social" model based on sports social interaction. From the literature point of view, this type of problem basically stays at the surface of the business model introduction, and deeper digging is still slightly insufficient. In the research on the business operation model of sports mobile, Pan Gong analyzed the venue ordering of the "Go Sports" APP, sports social interaction and intra-city competitions, physical fitness monitoring, fitness customization, sports mall, diversified health management, online and offline integration The O2O model of operation (Gong & Luo, 2016). On the issue of business model evaluation, Xuan Ge (2016) analyzed the business model of Hupu using the method of document data and expert interviews. She believes that in the business model evaluation system of the comprehensive information APP for sports events, the product, customer, and basic Under the four subdivisions of facilities and financial status, the four evaluation elements of product ease of use, user perception, user scale, and consumption pattern occupy the most important proportions of their respective dimensions. Xuan Ge (2016) proposed the future research direction of the business model of sports mobile applications. Her research shows that the business model of sports mobile applications should focus on the business model’s value proposition, customer segmentation, channel access, customer relations, core resources, key business, Nine aspects of important cooperation, cost structure and income sources are studied (Xuan, 2016). The market operation status of these models and the research direction of the models are the key issues for our next research.

Expand research objects

The collected literature shows that the researcher’s research object is single, most of the research objects are college students, and the sports mobile application is for the general public. It simply uses the individual to infer the whole, which is obviously a partial generalization. Expanding the research objects can more accurately reflect the facts and enrich the research results of sports mobile applications. In 2016, Zhang Xiaolong, vice president of Tengxu, said that the most active elderly in the WeChat movement averaged 6,700 steps per day. This also shows that the elderly are also an important group of users of sports mobile applications. The fitness issue of the elderly is also a hot issue in the field of sports. The value of combining sports mobile application research should not be underestimated. In addition, research on the use of sports mobility by urban white-collar workers, middle school students, and the disabled is rarely involved. Enlarging the research objects and covering all social groups in sports movement as much as possible is of great significance to increasing the breadth of research.

Thinking and prospect

Through combing the related literature of sports mobile, the author found that the development of sports mobile has been ahead of the publication of scientific research results in many aspects, and scientific research should be closely integrated with the development of society. In this era of the knowledge explosion, blindly immersing in scientific research and not paying attention to changes in current affairs is tantamount to working behind closed doors. In traditional fields, sports are often side by side with politics, economy, and culture. With the adjustment of my country's industrial structure and the deepening of the Internet economy, the development of sports mobile applications has the following trends:

(1) Copyright is the guarantee of sports mobile applications for live events. The protection of intellectual property rights is a trend. Originality and copyright are the lifeblood of sports mobile for live sports events, and the right to live sports events is the key to attracting traffic. Paying attention to the contention of copyright is the direction of development.

(2) Knowledge payment will become a trend. Payment for knowledge has become more and more accepted. In the Internet age, fee-based fitness consultation and special action solutions have appeared in some sports mobile applications, and it will definitely become a development trend.

(3) Pan-entertainment of sports mobile application content. The emancipation of people's minds, especially young people's demand for entertainment, has allowed the development of sports mobile applications to cater to this market demand, such as: the entertainment program of competitive sports "Come on! "Champion" catered to the needs of the times and was a great success.

(4) Pay more attention to the analysis of big data. The development of sports mobile applications has been combined with big data. The articles that users browse, the videos of sports events they watch, and the sports activities they perform will all be predicted to predict personal hobbies, habits, consumption power, and consumption tendencies, which is the accurate content of sports mobile applications. Provide basis for push.

References

Xie, W. F. (2018). The dissemination advantage and development trend of sports news App—Take Tencent Sports as an example. *News Front*, (4).

Ma, J. (2016). *Research on the development and characteristics of APP information dissemination of the four major tennis open competitions from 2012 to 2015* [Doctoral Dissertation, Xi'an Institute of Physical Education].

Wang, Z. P., & Yao, J. Y. (2014). The formation, development and prospects of sports mobile applications. *China Sports Science and Technology*, (6).

Wang, A. S., Zhang, H. Y., Li, S. L., et al. (2016). Application of Apps in the Promotion of Winter Sports in the Mobile Internet Era. *Ice and Snow Sports*, 38(3), 33-36.

Cao, H. (2016). Research on the Spread Effect of Sports Apps. *News Research Guide,* 7(12), 356.

Wang, Y. Q. (2017). *Research on Brand Communication Strategy and Communication Effect of Fitness App—*

Vol.1 No.1 2021
https://doi.org/10.37420/j.ssp.2021.001

Taking Keep as an Example [Doctoral Dissertation, Guangxi University].

Shen. X, X. (2018). Research on Short Video Content Dissemination of Sports APP Virtual Community——Taking "Understanding the Ball" as an Example. *News Research Guide,* 9(09), 43-45.

Li, N. (2017). *Research on the impact of sports apps on college students' sports behaviors* [Doctoral Dissertation, North University of China].

Gong, P., & Luo, T. S. (2016). The influence of O2O model on the development of Hunan sports industry based on SWOT analysis—Taking the promotion of "Go Sports" APP in Hunan as an example. *Sports World (Academic Edition)*, (10).

Ge, X. (2016). *Research on the evaluation of the business model of Hupu Sports APP* [Doctoral Dissertation, Shanghai Institute of Physical Education].

Lu, P., & Xian, Z. Y. (2018). Research on the development status and promotion mode of mobile client sports APP in the "Internet +" era. *Sports Science and Technology Literature Bulletin,* 26(1), 9-10.

Shi, Y. Q. (2017). *Research on the status quo, problems and countermeasures of APP in the field of sports fitness* [Doctoral Dissertation, Harbin Institute of Physical Education].

Wu, C. Y., & Zhang, Y. C. (2016). The development status and countermeasures of sports APP software from the perspective of Porter's five forces model. J*ournal of Sports Adult Education*, 32(4), 31-35.

Jiang, L. (2018). Sports News App Event Communication Problems and Optimization Strategies. *News Front*, (4).

Miao, C. C. (2018). Community thinking built by Hupu Sports APP. *News Research Guide,* 7(18), 326-327.

Hu, L. (2017). *Difficulties and development strategies for the dissemination of large-scale sports events in Netease Sports APP* [Doctoral Dissertation, Wuhan Institute of Physical Education].

Yu, M. (2016). Research on the circle communication of the sports APP "Understanding Qiu Di". Anhui University,

Liang, W. T. (2017). *Research on the Operation Status of "WeChat Sports" Application* [Doctoral Dissertation, Beijing Sport University].

Guo, S. M., & Lei, H. (2015). Research on the Development Strategy of "Tiger Fighting and Watching Football" from the Perspective of Editing. *Jin Media,* (4), 85-86.

Zhou, W. W., & Luo, X. (2016). Development status and promotion strategy of sports APP. *Sports Culture Guide*, (03), 20-24, 54

Ge, X., & Tao, Q. (2016). Analysis of the business model of Hupu Sports APP. *Sports Culture Guide,* (08), 116-121, 126.

Wu, R. X., & Wang, Q. G. (2015). Research on the development status, problems and countermeasures of sports fitness apps. *Journal of Shandong Institute of Physical Education*, 31(04), 18-22.