

DEVELOPMENT STATUS OF BIG DATA IN THE FIELD OF PHYSICAL EDUCATION AND SPORTS IN VIETNAM AND SOME COUNTRIES IN THE WORLD

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Abstract:

Through the method of analyzing and synthesizing documents, together with practical surveys, the topic evaluates the development status of Big data in the field of physical education and sports Vietnam and some countries in the world. From there, we create a scientific basis for the selection and reasonable investment for the development of big data in the field of sports and physical training in Vietnam (as of September 2019).

Keywords: Status, Big data, physical education and sports, Vietnam.

INTRODUCTION

The 4th Industrial Revolution or Industry 4.0 is the current trend of automatize and exchange data in production technology, including physical networks, Internet of things, Big Data and cloud computing. The 4th Industrial Revolution is not only about intelligent, connected machines, but also a much wider range.

Big Data are large and complex data sets. It's so big that traditional data processing software is unable to collect, manage and process data in a reasonable amount of time.

Although Big Data plays an extremely important role, in the field of physical education and sports in Vietnam, they have not been paid adequate attention. Therefore, it is necessary to establish scientific bases for the selection and investment of Big data development in Vietnam today.

RESEARCH METHODS

The research process mainly uses methods of analyzing and synthesizing materials and practical survey methods.

RESULTS AND DISCUSSION

1. Implementation of Big data in physical education and sports activities in the world

United Kingdom applies in sport training

Completed during the past decade with the development of advances in IT as well as digital photography, the benefits of performance analysis (PA) are increasingly recognized in

sports. The system of performance analysis technology in sports depends on two scientific issues directly related to sports: 1) Analysis and synthesis of match indicators, including the use of means to record the competition activities in the most accurate way; 2) Biological and motor mechanisms of the human body in sports.

US applies in sports management

For sports, Big Data application is changing the way business is governed. The continuous development of technology has affected sports fields and sports management programs, so the managers in the sports fields must also constantly learn to improve their knowledge of Big Data. With these requirements, many Big Data courses are opened to meet the needs of various sports fields.

The standards of a sports management program must be specified by NASPE-NASSM and combined with the appropriate contents to help familiarize oneself with the amount of knowledge needed for diverse sports. The contents include sports leadership and management, sports administration, sports rules, laws, economics, budget and finance, sports marketing, social and cultural sports scale, personal/ professional relationships, information and technology. The level of Big Data capabilities of modern sports managers is achieved through diverse skills development through a variety of courses combined with a technical system.

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Building, developing and exploiting big data (Big Data) is the orientation of developed countries in the world. (photo source: KT, <https://vov.vn/>)

Improve performance in sports

Most elite sports now accept Big Data analysis. We have the IBM SlamTracker tool for Tennis tournaments, which uses video analytics to track the performance of every player in Soccer or Baseball games and sensor technology in sports devices like Basketball or Golf clubs allow us to receive feedback (via smartphones and cloud servers) on our game and how to improve it. Many elite sports teams also track athletes outside the sporting environment - using smart technology to track nutrition and sleep, as well as social media conversations to track happiness and affection.

Big data application in Golf

The sports industry has found a way to combine Big data with its businesses. A famous American film, Moneyball 2011, talks about the leader of a baseball team in the US city of Oakland uses Sabermetrics - a form of statistical analysis with data, to build a successful team. Other Baseball teams later imitated this approach and in fact the use of data analysis has been replicated in other subjects such as Basketball, Soccer, Tennis, and even Golf.

Currently, GolfTEC has published their study, the Motion Study, using more than 225 terabytes of data collected to determine the

difference between professional golf players and amateurs. From that research, GolfTEC has developed a type of service that analyzes each individual's play style and compares with their data warehouse to find out how to improve it. Big Data has really brought efficiency and greatly contributed to the development of Golf.

2. Actual situation of the IT infrastructure at the General Department of Sports and Physical Training

IT application within state agencies

Electronic mail system: The internal email system has deployed nearly 300 addresses, of which the General Department of Sports and Physical Training has more than 200 addresses, direct mailboxes of officials, public servants and bureaucrats; more than 70 mailbox addresses of units under the Union and Associations. In addition, officials, public servants, bureaucrats and workers also use email systems of other providers such as Yahoo, Google ...

The email system has been used regularly at the General Department of Sports and Physical Training. Specifically: Percentage of bureaucrats and officials granted official e-mail provided by agencies and units: 100%. Percentage of officials and bureaucrats who use e-mail regularly at work (checking and using daily): 70%

Types of documents that are regularly exchanged via email: official letters, presentation cards, reports, work files. The percentage of documents exchanged via email within the agency: 80%. Rate of documents exchanged via email with external agencies: 60%. E-mail management software currently used at General Department of Sports and Physical Training is Microsoft Exchange 2007 of Microsoft.



Big Data, trends in information management era 4.0
(Image source: <https://www.nguoiduatin.vn>)

Internal applications: Building and perfecting available application software such as document management software, public servant record management software, athletes data, scientific research data, human resources, finance management...

Collecting and updating utility software to meet the working needs of officials, public servants and bureaucrats of the General Department of Sports and Physical Training .

Organizing and implementing the development of information systems serving the organization of sporting events in domestically and internationally such as: 22nd SEA Games in Vietnam; 3rd indoor Asian Games; Building a synthesizing system of competition results for the Vietnam National Games V, VI and VII; 5th Asian Beach Games (ABG5)

Regularly upgrade the Sports website to better serve the needs of sports fans and the propaganda about sports

Developing information systems and databases

The information management system has been developed and implemented since 2006 with the goal of collecting, storing, processing

and providing information for the management and performance of professional tasks of experts; assisting in the management decisions of the General Department of Sports and Physical Training. The system includes the following main modules: information management and administration module; Information and database of sports competitions module; information management and database of mass sports module ...

The built specialized database system include the following main modules: Work, business schedule utilities; documents and work records management; Database of legal documents; Database of sports competition laws; Database of sports achievements ; Database of mass sports ; Database of bureaucrats and public servants records ...

The operational information system has been implemented for the purpose of administration and operations of the General Department of Sports and Physical Training such as: Receive and distribute arriving documents ; Manage and resolve arriving documents ; Draft and create documents ; Issue the document ; Solving work through work files; Support storage work;

Programme and manage the working program, schedule ; Provide information for operating operations ; Summarize reports, look up and record information statistics; Conducting internal and external information exchange ...

In addition to the information systems that have been implemented, the Departments and functional units also actively implement application software for professional work such as competition scoring software, competition scheduling software ...

The General Department of Sports and Physical Training has developed general Physical Education and Sports database systems. Specifically, totaling up statistics, collecting, editing and data entry were organized on 41,000 specialized database pages. Telephone directory database and legal documents database were developed. These databases have been widely provided on the website of the Ministry of Culture, Sports and Tourism.

In addition, the General Department of Sports and Physical Training has also directed the relevant units to organize the collection, classification, standardization of information, database of athletes, information of competition results through sports tournaments ... to serve the management and administration of the General Department.

Information security

Ensuring information safety and security for network systems, information systems and databases is always one of the General Department of Sports and Physical Training's top priorities in implementing the application of information technology at the unit. With that perspective, the General Department of Sports and Physical Training has directed the relevant units to strengthen measures to ensure information safety and security under the guidance of the Ministry of Culture, Sports and Tourism and the Ministry of Information and Communications.

At the Data Integration Center, the General Department of Sports and Physical Education has implemented systems to detect, prevent and fight unauthorized access (FortiGate / ACE

XML provided by Cisco) 100% of bureaucrats, public servants and officials' computers are equipped with Kaspersky anti-virus software, BKAV Home Edition, AVG Anti Virus Free Edition. E-mail system is equipped with software for scanning viruses and spam filters of Kaspersky provider.

The implementation of measures to ensure information safety and security for the whole system is regularly inspected. Organizing the dissemination of law's regulations and rules of the agency on information safety and security to officials and bureaucrats of the General Department of Sports and Physical Training .

CONCLUSION

No one can deny the benefits that Big Data brings to the development of sports field, however, to effectively implement and apply those achievements to Vietnam sports, it is necessary to have reasonable selection and investment. We can look at the facts that big countries like the UK and the US have developed, as well as the reality of Vietnam's IT infrastructure at the General Department of Sports and Physical Training, from which to give the right solutions in Big Data investment and development .

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