JUARA: Jurnal Olahraga
E-ISSN 2655-1896 ISSN 2443-1117
https://doi.org/10.33222/juara.v7i2.1723

Development of Management Information System and PBSI Athlete Database for Kendal Regency

Dyta Mukti Hertikasari [1], Sugiharto[2], Donny Wira Yudha Kusuma[3]

[1,2,3] Faculty of Sport Science, Universitas Negeri Semarang, Semarang City, Central Java 50229, Indonesia
e-mail: dytaamukti@gmail.com

Info Artikel

Article History.

Received 10 December 2021
Approved 30 March 2022
Published 03 April 2022

Keywords:
Database, Management Information System, Website

Abstract

The purpose of this study was to produce a management information system product and the Kendal Regency PBSI athlete database, test the effectiveness and analyze the acceptance of the Kendal Regency PBSI athlete management information system and database product so that the system product can play a role in the data input process and make it easier for users to find information. The research method used is development research. The development procedure used includes several stages, namely; 1) research and data collection; 2) product planning; 3) product development. The instruments used in this development research are questionnaires, observations and interviews. The subjects and places of research are PBSI administrators, club administrators, coaches and athletes under the auspices of PBSI Kendal Regency. This research aims to produce a website-based product management information system and database of PBSI athletes in the Kendal Regency that can be accessed via computers and smartphones to be accessed anytime and anywhere. Test the product's effectiveness on a small group scale with an overall score of "Good" at 71.11%. Test the effectiveness of large group products with an overall score of "Very Good" of 89.29%. Based on the results of this study, the conclusions obtained are to produce SIM products and athlete databases that are effective and efficient when used.

✉ Alamat korespondensi: Pasc Semarang City, Central Java
E-mai : dytaamukti@gmail.com

INTRODUCTION

Badminton has become a part of people's lives, even colouring the lifestyle of today's people; this game is not only for everyone's entertainment but has become an achievement sport that deserves to proliferate at this time (Ardyanto, 2018). Sport is a physical activity that nourishes the body and

functions to achieve physical fitness (Rizqika, Rustiadi, & Sulaiman, 2020).

The current era of organization has been connected to a global network of information technology systems with telecommunications technology via the internet, and transactions can be made on the internet through electronic transactions; even payments are made electronically (electronic payment) (Rusdiana, 2014). Information technology can replace the human role; in this case, information technology can also strengthen the human role, namely by presenting information on a task or process (Rusdiana & Irfan, 2014). Information technology also supports the achievement of a goal. According to (Lipursari, 2013), the existence and role of data technology have brought a new period of growth in all fields. However, this growth needs to be balanced with an increase in human energy sources that ensure the success of an institution's goals.

The role of management helps the deployment and efficient use of resources to achieve a goal, thereby helping the management function by receiving information quickly and accurately (Sudjiman & Sudjiman, 2018). Therefore, being supported by existing technological developments in an organization that implements a management information system will help improve organizational performance and help simplify the decision-making process (Sudjiman & Sudjiman, 2018). Information is any form of communication that adds understanding and valuable knowledge for the recipient of the information. Information is like the blood that flows in the body of an organization (Lipursari, 2013). Sources of information are existing data packaged and processed to become valuable information (Rusdiana & Irfan, 2014; Sinurat & Tofikin, 2021). Data is a fact that can be used as input in generating information, and data can be in the form of material for discussion, decision making, calculation, or measurement. Currently, data is not only in the form of a collection of letters in the form of words or sentences but can also be in sound, still and moving images, both in two and three dimensions (Susanto, 2002).

With the development of information technology today, the database system can be changed to provide information, management and services through electronic devices, namely computers, distance and space or place (Andrasto, 2013).

An information system is an integrated machine or human system that presents information to support functions or operations, management and decision making in an organization (Prasetyo et al., 2018). The existence of an appropriate and accurate information system can reduce unwanted errors to improve more efficient performance and the speed of agency operations; as described in (Rusdiana & Irfan, 2014), information systems have a goal of understanding something or solving problems systematically. Effective and efficient.

The current management information system can no longer be separated from the

management of a modern organization (Siagian, 2009). According to (Prasetyo et al., 2018), using a management information system is to improve organizational performance by improving the quality of management in decision making.

Information systems provide five leading roles in organizations: increasing efficiency, effectiveness, communication, collaboration, and competition. A high-quality, up-to-date, easy-to-control information system is a computer-based information system that is at the heart of today's global companies (Prismayadi & Surjawan, 2016). A computer-based management information system means that computers play an essential role in a management information system. Organizational success is closely related to technical competence, the organization's ability to adapt to the external and internal environment (Sudjiman & Sudjiman, 2018).

Organizations have many benefits in an information system when used and possible. The role of management that demands the deployment and use of efficient sources to achieve an organizational goal, thus helping the management function by receiving information quickly and accurately, requires a sound management information system to support organizational goals and an information system is needed to support managers in overcoming existing problems. Information systems process data into information and channel information to support the decision-making process (Anggadini, 2013). A sound management information system is needed to support organizational goals. According to (Prasetyo et al., 2018; Cidral et al., 2018), using a management information system is to improve organizational performance by improving the quality of management in decision making. According to (Ismail & Sinen 2017; Ramadan, 2017), success when carrying out the management function is supported by an information system that can provide the information needed by the processors (leaders of the institution).

The results of the researcher's observation to the Kendal Regency PBSI management on November 12, 2020, that they do not yet have an internet-based information system management. In the management process, it is still done manually so that data duplication is possible, and manual data will also have an impact on loss, damage, and difficulty finding data when needed as research (Mayasari & Anisah, 2016) states that data that has not been stored neatly will take a long time to find data. This management information system can be used as a Kendal Regency PBSI information service to help make it easier for the public to find out information that is under the auspices of Kendal Regency PBSI and can produce information for the needs of management at all levels in order to support the decision-making process of an organization that is fast and precise.

The process of inputting data to a laptop/computer is still too long, and there

tend to be human errors or errors in the input process due to a large amount of data entered. According to one team, the existing athlete system data processing is only limited to data input but is not optimal because it still uses simple Microsoft Excel or data input is only done manually; for example, the input process must perform several data input stages to get results and input data takes a long time, the data obtained is also still prone to errors, and this has caused many protests from various parties. Organizations need a management information system to assist the decision-making process and facilitate the performance of an organization, as well as PBSI Kab. Kendal needs to have a management information system in the form of software. This management information system is to facilitate and assist PBSI Kab. Kendal in managing data, coaching badminton athletes' achievements, and developing badminton sports and activities under the auspices of PBSI Kab. Kendal. Operation only requires a computer and internet connection. The program in the system implements HTML (Hypertext Markup Language), PHP and MySQL database or DBMS (Data Base Management System) (Prasetyo et al., 2018; Hidayat & Iskandar, 2019).

This research aims to produce a management information system product and a database of PBSI athletes in the Kendal Regency and then test the product's effectiveness and acceptability.

METHODS

The method used in this study uses a research and development approach (Ramadan & Juniarti, 2020). The researcher chose the development research method because it was considered capable of solving problems related to input data into a laptop/computer. It was still too long, and there tended to be human errors or errors in the input process due to a large amount of data entered. This research is development research that produces a product management information system and database of athletes from the Kendal Regency PBSI organization.

The development procedure used includes several stages, namely, procedures for research and data collection (research and information collecting), product planning (product planning), and product development (develop product). The instruments used in this development research are questionnaires, observations and interviews. The subjects and places of research are PBSI administrators, club administrators, coaches and athletes under the auspices of PBSI Kendal Regency.

The data analysis in this study includes the analysis of the needs identification questionnaire sheet and the analysis of the validator results. The analysis is carried out on each criterion related to the management information system component concept and the Kendal Regency PBSI Pengcab athlete database. The instruments used in this development research are questionnaires, observations and interviews. The subjects and

places of research are PBSI administrators, club administrators, coaches and athletes under the auspices of PBSI Kendal Regency.

FINDINGS AND DISCUSSION

Findings

The stages of research and data collection include needs analysis. This needs analysis activity is carried out by observing data and information management, conducting literature studies and literature reviews, and interviewing the Kendal Regency PBSI management involved in the data input process. The manual data input process using Microsoft Excel has many obstacles to needing the data back because manual data is prone to data duplication, difficulties in finding data, and is still prone to data loss. Data input is still using simple Microsoft Excel, or data input is only done manually. The data input process to a laptop/computer is still too long, and there tend to be human errors or errors in the input process because the data entered is large.

In the initial product draft, after going through the needs analysis process related to the product to be developed, the researcher prepares the framework, design, and product of the management information system and database in the next stage. After the analysis process is complete, the initial product for developing a management information system and web-based database can be produced. Several experts will then validate the initial draft of the management information system and the database according to the field of badminton and website science. After validation tests were carried out by IT experts and badminton experts and revisions, it was found that there were 6 (six) content provided, namely home, profile, information system, agenda, ranking, and news. The main content that must be provided on the website will be provided in table 1. The management information system product development and the Kendal Regency PBSI athlete database are complete and ready for trial operation to users. The results of the finished software product can be seen on the website https://simpbsikendal.000webhostapp.com/.

Table 1 Final Product Results of Management Information Systems and Kendal Regency PBSI Athlete Database

Content Display	Description
Home	This menu displays information pages about the latest news latest agenda
Profile	This menu displays information about the organisation's identity, details of the vision and mission of the organization, the profile of the management, and the Telephone Number of PBSI, Kendal Regency.
Information Systems	This menu contains badminton clubs in Kendal Regency club profile (training schedule, training ground, club contact person) database of athletes and coaches.
Referee	This menu contains the Kendal Regency PBSI referee database
Agenda	this menu displays championship schedule information

	coach training championship details.
Rating	This menu contains information about the ranking data obtained by athletes after they have participated in tournaments and earned championship titles or points. There are filters to sort or view ranking data by year and class, respectively.
News	This menu is a website page that contains information about news that has been created or stored in software databases and monthly or annual news archives.
Login-Logout	This menu is for logging in and out of admin.

The validation of IT experts (telecommunication science) shows that the average assessment at stage 1 gets a score of 91 and at stage 2 gets a score of 110. The average assessment is 100.5 of the average getting a percentage of 87.39%. Based on the criteria that have been set, the average IT expert assessment meets the "excellent" criteria. While the results of the validation of badminton experts, the average assessment of stage 1 got a score of 82, and in stage 2, it got a score of 111, so the average rating of 96.5 of the average got a percentage of 83.91%. Based on the criteria that have been set, the average assessment of IT experts meets the criteria of "very good" so that this athlete management information system and database product can be used.

Product validation from IT experts and badminton experts, the product is used for testing to product users such as coaches, club administrators, and athletes. The results of trial one aim to find out the problems that exist in the system, but researchers also want to know the effectiveness of using the system. The 1 (one) trial of the system product was carried out by giving a questionnaire to club administrators, club coaches and athletes from 5 (five) clubs that had a club decree. While in trial 2, the researchers again experimented with management information system products and athlete databases and gave questionnaires to coaches, club administrators, and athletes from 7 clubs that had club decrees from PBSI Kendal Regency.

The research results in trial 1 (one) also showed a percentage of 71.11% taken from the questionnaire distributed to system users (coaches, club administrators, and athletes). The data shows that user satisfaction with the system being tested has excellent criteria or can be said to be satisfied with the website-based system. Trial 2 (two) showed that 89.29% was taken from questionnaires distributed to users of different systems (coaches, club administrators, and athletes). Based on these data, it shows a change from the results of trial 1 (one) and trial (two), which proves that the product management information system and athlete database can be used effectively and efficiently.

Table 2 Effectiveness Test Results

No	User	Trial 1	Trial 2
1.	Coach	84,8	105,85

2.	Club Manager	83,5	104
3.	Athlete	87,9	111,64
	Average	85,4	107,16
	percentage	71,11%	89,29 %

The research shows that users accept the management information system and athlete database products because they help facilitate the administration of PBSI Kendal Regency. The sample in small-scale trials and large-scale trials, namely PBSI administrators, club administrators, coaches and athletes, stated that the management information system and athlete database were essential to facilitate the administration under the auspices of PBSI Kendal Regency and make it easier for users to get information about athletes and athletes. Kendal PBSI agenda. The study results were conducted by interviewing the sample at the time of distributing the questionnaire. The product management information system and athlete database still have limitations; the limitations of this study have advantages and disadvantages in the product of these limitations, among others:

1) Product Advantage
   a) The system products can be accessed either through smartphones (android smartphones), computer devices (windows) and website pages.
   b) The product can be used anywhere and anytime because it is online
   c) The display is easier to understand and easy to access
   d) For PBSI administrators. Data input is easier and faster

2) Product weakness
   a) The cost of making a website is relatively high
   b) This type of product is based online, requiring a data package or a wifi network.
   c) It still needs further development regarding the features developed are still not maximized

Discussion

Product Management information systems and athlete databases help make it easier for the public to find out the information under the auspices of PBSI Kendal Regency and can produce information for the needs of management at all levels to support the decision-making process of an organization that is fast and precise. In the current era, the development of information technology is very rapid, and the current management information system can no longer be separated from the management of a modern organization (Siagian, 2009). The existence of an appropriate and accurate information system can reduce unwanted errors to improve more efficient performance and the speed of agency operations; as described in (Rusdiana & Irfan, 2014), information systems have a goal of understanding something or solving problems systematically. Effective and efficient.

Product testing is done by experiment. Experiments can be done by comparing the

situation before and after using the new system (before-after) (Sugiyono, 2017). The data obtained through the trial were classified into quantitative and qualitative. Qualitative data in the form of criticism and suggestions put forward by badminton experts, coaches, and athletes. The quantitative data analysis technique in this study uses descriptive statistical analysis in the form of offensive, poor, good enough, sound, and excellent statements, which are converted into quantitative data with a scale of 5, namely using scoring or scoring from numbers 1 to 5. Data analysis includes: 1) Collecting rough data, 2) Giving scores/scores, 3) Scores/scores obtained and 4) Converting to values with a scale of 5. (Royana, 2015).

This research is development research, in this research produces a web-based product management information system and database of athletes from PBSI Kendal Regency. There are several problems behind the product development in this research, including 1) do not have administrative system management in PBSI Kendal Regency, 2) there is no management information system and athlete database at PBSI Kendal Regency, 3) data is still manual, 4) community difficulty finding information that is under the auspices of the Kendal Regency PBSI (Iskandar & Ramadan, 2019). Researchers developed a management information system product and athlete database to assist PBSI in managing the administrative system to make it better programmed. A good management information system is needed to support organizational goals. According to (Prasetyo et al., 2018; Aswara, 2019), using a management information system is to improve organizational performance by improving the quality of management in decision-making.

The measurement of the effectiveness test is carried out by conducting small-scale and large-scale trials; from the results of these trials, whether there is a good chance to measure the effectiveness of the management information system product and the athlete database. The results of the small-scale trials show the criteria of "good". In contrast, the results of the large-scale trials show the criteria of "very good" it can be concluded that the management information system and athlete database products are effectively used. The existence of an appropriate and accurate information system can reduce the occurrence of unwanted errors to improve more efficient performance and the speed of agency operations as described in (Rusdiana & Irfan, 2014; Heriyadi & Hadiana, 2018) that information systems have a goal to understand something or to solve problems effectively and efficiently.

This research and development are carried out concerning the stages of research and development according to (Borg & Gall. Borg & Gall, 1983; Adila et al., 2017), explaining that there are ten stages in research and development. However, in this research and development, the ten steps are simplified into three steps: research and data collection, product planning, and product development. The research phase and data collection were

taken from the researcher's observations in the initial analysis, characteristic analysis, work program analysis, and athlete achievement specifications. The product planning stage is in the form of initial product design in collaboration with programmers. The product development stage includes expert validation, initial draft revision, small-scale and large-scale trials, and product revisions. The next researcher's stage will become a management information system product that can be used and accepted by users of the product.

CONCLUSION

This study concludes that the product management information system and athlete database are appropriate for pbsi kendal regency. The results of this product development produce website-based software that can be used anytime and anywhere, thereby accelerating the input of data for athletes, coaches, referees, and pbsi administrators through the menus in the system.

The use of the website-based pbsi athlete database and management information system product in kendal regency is more effective and efficient use with the results of the "good" small group trial of 71.11%. Test the effectiveness of large groups of products in the assessment of quality aspects, namely with the criteria of "very good" of 89.29%.

PBSI administrators, club administrators, coaches and users of the management information system and database of the kendal regency pbsi athletes based on the website have high interest because they help process data input and obtain information easily and quickly.

REFERENCES

Adila, F., Rahayu, T., & Rahayu, S. (2017). Pengembangan Sistem Informasi Manajemen Tenis Meja Pengurus Provinsi Persatuan Tenis Meja Seluruh Indonesia (PTMSI) Jawa Timur. *Journal of Physical Education and Sports*, *6*(4), 14–21.

Andrasto, T. (2013). Pengembangan Sistem Database Hasil Penelitian Dan Pengabdian Kepada Masyarakat Dosen Unnes, *5*(2), 64–68.

Anggadini, S. D. (2013). Analisis Sistem Informasi Manajemen Berbasis Komputer dalam Proses Pengambilan Keputusan. *Majalah Ilmiah UNIKOM*, *11*(2), 176–187.

Ardyanto, S. (2018). Peningkatan Teknik Servis Pendek Pada Bulutangkis Melalui Media Audio Visual. *Jurnal Ilmiah Penjas. 4(3)*, 21-32.

Aswara, A. Y. (2019). Penerapan Media Audio Visual VCD Terhadap Hasil Belajar Passing Dan Service Bawah. *JUARA : Jurnal Olahraga*, *4*(1), 75. https://doi.org/10.33222/juara.v4i1.454

Cidral, W. A., Oliveira, T., Di Felice, M., & Aparicio, M. (2018). E-learning success determinants: Brazilian empirical study. *Computers & Education*, *122*, 273–290. https://doi.org/10.1016/j.compedu.2017.12.001

Hendrianto, D. E. (2014). Pembuatan Sistem Informasi Perpustakaan Berbasis Website

Pada Sekolah Menegah Pertama Negeri 1 Donorojo Kabupaten Pacitan. *IJNS – Indonesian Journal on Networking and Security ISSN: 2302-5700 (Print) 2354-6654 (Online)*, *3*(4), 57–64.

Heriyadi, D., & Hadiana, O. (2018). Perbandingan Model Discovery Learning Dengan Model Peer Teaching Terhadap Teknik Passing Bawah. *JUARA : Jurnal Olahraga*, *3*(2), 89. https://doi.org/10.33222/juara.v3i2.240

Hidayat, A., & Iskandar, D. (2019). Efektivitas Underhand Servis Posisi Lurus dan Posisi Menyamping Terhadap Akurasi Servis Bawah. *JUARA : Jurnal Olahraga*, *4*(1), 62. https://doi.org/10.33222/juara.v4i1.452

Iskandar, D., & Ramadan, G. (2019). The development of a concentration training model on free throw shots basketball players. *Jurnal SPORTIF : Jurnal Penelitian Pembelajaran*, *5*(1), 1. https://doi.org/10.29407/js_unpgri.v5i1.12493

Ismail, L. O., & Sinen, R. (2017). Penerapan Sistem Informasi Manajemen Pendidikan Dalam Proses Pembelajaran Di Smp Negeri 21 Makassar. *Jurnal Idaarah*, *1*(2), 290–309. https://doi.org/10.24252/idaarah.v1i2.4272

Lipursari, A. (2013). Peran Sistem Informasi Manajemen (SIM) dalam Pengambilan Keputusan. *Jurnal STIE Semarang*, *5*(1), 26–37.

Marhadini, S. A. K., Isa Akhlis, & Imam Sumpono. (2017). Pengembangan Media Pembelajaran Berbasis Android pada Materi Gerak Parabola untuk Siswa SMA. *UPEJ Unnes Physics Education Journal*, *6*(3), 38–43. https://doi.org/https://doi.org/10.15294/upej.v6i3.19315

Mayasari, M. S., & Anisah. (2016). Desain Database Sistem Informasi Penerimaan Peserta Didik Baru pada Selective English Course. *Jurnal SIMETRIS*, *7*(1), 183–190.

Prasetyo, A., Rahayu, T., & Rc, A. R. (2018). The Development of Sports Information Management System (SMICO) of KONI Salatiga Municipal. *Journal of Physical Education and Sport*, *7*(1), 88–94.

Prismayadi, W., & Surjawan, D. J. (2016). Sistem Informasi Pengelola Berita Acara dan Reservasi Guest House Pada Saung Angklung Udjo. *Jurnal Teknik Informatika Dan Sistem Informasi*, *2*(1), 53–66.

Prof. Dr. Sugiyono. (2017). *Metode penelitian kuantitatif, kualitatif dan R and D*. Bandung: Alfabeta.

Raharjo, B. P., Muslim, M. A., & Arini, F. Y. (2014). Sistem Informasi Penjualan Berbasis WEB Pada Stockist Centre PT. K-LINK Indonesia Cabang Pekalongan. *UNNES Journal Mathematics, ISSN 2252-6943*, *3*(2).

Ramadan, G. (2017). Pengaruh Metode Pembelajaran Dan Motivasi Belajar Terhadap Hasil Belajar Passing Sepakbola. *JUARA : Jurnal Olahraga*, *2*(1), 1. https://doi.org/10.33222/juara.v2i1.27

Rizqika, H. N., Rustiadi, T., & Sulaiman, S. (2020). Nusantarun Event Management Chapter 6 Wonosobo – Gunung Kidul 169 Km In 2018. *Jurnal Of Physical Education And Sport*, *9*(3), 312–316.

Royana, I. F. (2015). Pengembangan Multimedia Pembelajaran Renang Berbasis Android Pada Penjasorkes di SMA, *1*(1), 878–882.

Rumini. (2015). Manajemen Pembinaan Cabang Olahraga Atletik Di Pusat Pendidikan dan Pelatihan Pelajar (PPLP) Provinsi Jawa Tengah. *Journal of Physical Education and Sport*, *2*(1), 20–27.

Rusdiana, A., & Irfan, M. (2014). *Sistem Informasi Manajemen*. CV Pustaka Setia.

Sinurat, R., & Tofikin, T. (2021). The Identification of Sport Talents Using a Sport Search. *JUARA : Jurnal Olahraga*, *6*(1), 101–106. https://doi.org/10.33222/juara.v6i1.1154

Siagian, Sondang P, 2009, Manajemen Sumber Daya Manusia, Edisi.1, Cetakan.17 Jakarta, Bumi Aksara,

Sudjiman, P. E., & Sudjiman, L. S. (2018). Analisis Sistem Informasi Manajemen Berbasis Komputer dalam Proses Pengambilan Keputusan. *Jurnal TeIKa*, *8*(2), 55–66.

Susanto, H. M., Mantja, W., Bafadal, I., & Sonhadji, A. (2015). Pengembangan Sistem Informasi Manajemen Pendidik dan Tenaga Kependidikan. *Jurnal Pendidikan Humaniora*, *3*(2), 93–105. https://doi.org/10.26858/publikan.v6i3.2275

Utama, Y. (2011). Sistem Informasi Berbasis Web Jurusan Sistem Informasi Fakultas Ilmu Komputer Universitas Sriwijaya. *Jurnal Sistem Informasi (JSI)*, *3*(2), 359–370.