

THE NEEDS OF THE COMMUNITY'S SPORTS INFORMATION SYSTEM IN THE INDUSTRIAL 4.0

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Abstract

The importance of sports activity to public fitness must be supported through available sports facilities and infrastructure. This study was a descriptive research with mixed methods. Access facilities and sports infrastructure are essential factors vital to increasing people's interest in practising to enhance the community's physical health. This study aims to recognise the need for a sports information system in the city in industrial 4.0 that require human beings to improve their physical condition and health to stay productive. It has a shut connection with the availability of information systems and sports activities infrastructure accessible around the residence. The subjects of this research were 137 public of Yogyakarta city by convenient sampling. Data analysis techniques using descriptive and correlation among indicators-item themselves with Software SPSS.25. The results showed TCR in the Good category in each item that these indicate that there was a lack of a productive sports activities information system to locate the capability and sports activities infrastructure around the public, which affect the lack of public interest and participation in the exercise knowledge became strong management tools that help physical education, sports medicine, coaching training managers to decide how to improve peak of performance, to maintain the excellent quality of public health: This study is the first to apply to evaluate the needs of the Community's Sports Information System In The Industrial 4.0.

Keywords: Information system in sport; sports facilities; public health; sports activity participation

Submitted : 10th of January 2023

Accepted : 24th of May 2023

Published : 25th of May 2023

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DOI <http://dx.doi.org/10.31851/hon.v6i2.11722> 



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INTRODUCTION

Sports activities have health benefits that are important to a healthy lifestyle. (Brinkley et al., 2017) Exercise is recommended for human health to keep the physique active and avoid various diseases. Exercise is the main answer in life to prevent some diseases so that fitness is maintained properly. Besides

being top for health, exercise is also regarded to reduce depression, stress, and anxiety, increase self-confidence, make bigger energy, improve sleep quality, and improve the ability to concentrate (Jaarsma et al., 2015). Exercise as a form of sports activity can help minimise fitness care costs for human beings with obesity, cardiovascular disease, high blood pressure, hypertension, diabetes, stroke, from diarthcersekute (2011) Basic Health Research Facts (2018), which shows the prevalence of non-infectious diseases increased compared to 2013 data, the prevalence of most cancers increased from 1.4% to 1.8%; The stroke prevalence increased from 7% to 10.9%; chronic renal failure decreased from 2% to 3.8%; diabetes mellitus fell from 6.9% to 8.5%; and hypertension increased from 25.8% to 34.1% (Ministry of Health RI, 2018). The increase in non-communicable illnesses is due to an unhealthy lifestyle and rarely regular exercise (Stuij & Stokvis, 2015; Weed, 2016).

The importance of activity for public health ought to be supported with an adequate sports infrastructure (Dudley et al., 2017; Stuij & Stokvis, 2015; Watson et al., 2016). Providing get admission to sports facilities is a critical element of the success of a developing pastime in high-quality sports participation (Hoekman et al., 2015). The availability of sports activities infrastructure or infrastructure is one of the government's obligations and insurance policies, which is based on the Law of the Republic of Indonesia (2005) regarding the countrywide sports activities system, particularly Article 67, factor (2). the availability of sports activities infrastructure under the requirements and needs of authorities and regional government. Looking at sports activities policy in Europe, in general, implies that access to sports activities facilities influences growing sports activities participation in quite many sports activities (Coimbra et al., 2020; Hoekman et al., 2015; Weed, 2016).

The relationship between sports participation and the provision of sports infrastructure and facilities has been demonstrated to be dependent on a nation like China's means of developing sports infrastructure (Guo et al., 2014). In the UK, public sports insurance policies and non-public funding in sports activities

facilities have succeeded in balancing provide and demand (Kim et al., 2014; Kokolakakis et al., 2014). And in the Netherlands, the growth in the provision of sports activities infrastructure and facilities helped to increase the level of sports activities participation until the threshold for participation was reached in the 1980s. But in the decades considering Following this, the growth of recreation participation slowed down and eventually declined (Van Bottenburg dan de Bosscher, 2011). With the availability of sports activity facilities, it can increase sports participation in the community. And public fitness will improve with the enlarge in activity participation or physical activity, which is supported by the availability of necessary sports facilities.

With the development of Industry 4.0, the development of sports facilities has to of path be balanced with an appropriate sports information system, as it provides facts to the public to be able to understand the sports services available. The purpose of the sports activities information device is to collect, store, maintain, process, and provide essential information for all segments related to sports (Miocic et al., 2019, p. 1363). so that sports activities information is on hand and useful to all. Therefore, it is necessary to understand the objectives and means of all ranges of sports facilities as well as systematic planning and method to build a sports information system (Matsui, 2017; Wittels & Mansfield, 2019). It was explained through a review of the literature and lookup outcomes on the importance of the availability of sports activity facilities to promote sports participation in society; it is not enough to cover the truth that there are still stereotypes about the lack of developing and increasing sports information systems. Community Sports Participation in the Industrial 4.0 Age Public awareness of recreation contributes to the development of smart, healthy, skilled, tough, competitive, prosperous, and dignified individuals and societies (Dudley et al., 2017; Prasetyo, 2013; Watson et al., 2016; Wittels & Mansfield, 2019).

Based on the relevant information above, according to the Rikesdas 2018, which indicates that the prevalence of non-communicable diseases, such as cancer, stroke, chronic kidney disease, and diabetes, has increased compared to

the Riskesdas of 2013. The prevalence of cancer increased from 1.4% in 2013 to 1.8% in 2018, with the highest prevalence in Yogyakarta Special Region (DIY). For this, public participation in sports activities has to increase, as indicated with the aid of an increase in community participation in the Sports Development Index or the Sports Development Index (SDI).

In this case, research to see the need for sports activities information systems in the community in Indonesia, particularly in Yogyakarta, was once not conducted. Therefore, this study aims to determine sport in society through an efficient and easy-to-use sports information system in the industrial 4.0 era.

METHOD

The method used in this research is quantitative research with a case study graph (Montgomery, 2013). Data collection techniques using observation techniques were collected using a sports information system requirement instrument that had been carried out with validity and reliability in the past. The data in this study uses primary data taken directly by researchers in the field; data collection is carried out. Research subjects can be individuals, groups, institutions, or communities. The researchers discovered that there is still no effective and adequate sports information system in Indonesia, especially in the special area of Yogyakarta province.

The residents of this study were all residents of the city of Yogyakarta. Participants were taken using a stratified random sampling technique, with the criteria that the participants were a certain population group: age and sex. Participants in this study, i.e. N = 139. Data collection used to be done online using a survey form on the website. Respondents can receive questionnaires via WhatsApp, forums, Facebook, and other social media. A brief description of the study is directed to the online questionnaire link posted on the web. The questionnaire is available online through Google Shape for one month, from August 1, 2020, to September 1, 2020.

To analyse sports activities in society, several aspects are defined by using the effects of age, period, and cohort/group (Breuer & Wicker, 2009). In this

study, the sample criteria were drawn according to the period, category, and active participation of sports in the community in the exercise of recreational sports (Moens & Scheerder, 2016). To determine the respondent's socio-economic background, numerous social characteristics are also used. The level of education, the professional situation, the level of sports facilities in the area, and sleep habits are also considered.

The data collection instruments used in this study were the observational technique and the questionnaire guidelines prepared by the researcher based on the data series needed to aid the interpretation of the research results. Before use, the observation guidelines and the questionnaire recommendations were checked by expert judgment to guide elements of the questions/statements that were not biased or deviated from the research objectives.

With the SPSS, In twenty-five applications, the validation (Pearson correlation product-moment) and reliability (Cronbach, 1951) were decided. If the inferential statistic result shows how that well, a variable can explain a factor. Item 1 with a value of each element, where all the elements are > 0.05 , we can conclude that all the elements can explain the factor. TCR (Tingkat Capaian Respondent) (Sugiyono, 2012) is used to decide The Needs of The Community's Sports Information System In Industrial 4.0 categorically.

RESULT AND DISCUSSION

Validitas dan Reabilitas Kuisisioner Kebutuhan system Informasi Olahraga

The validity of the instruments used in this study using the correlation of the moment of the product analysed using the program SPSS.25 was declared valid.

Table 1. The results of the analysis of the questionnaire's validity to measure the need for an information system on sports venues.

Item	V	R table	Information
1	0.736	0.497	Valid
2	0.728	0.497	Valid
3	0.712	0.497	Valid
4	0.748	0.497	Valid
5	0.689	0.497	Valid

6	0.740	0.497	Valid
7	0.712	0.497	Valid
8	0.748	0.497	Valid
9	0.749	0.497	Valid
10	0.750	0.497	Valid
11	0.588	0.497	Valid
12	0.500	0.497	Valid
13	0.573	0.497	Valid
14	0.556	0.497	Valid
15	0.576	0.497	Valid
16	0.500	0.497	Valid

Based on the decision-making, if the score $r > r$ table (0.497), we can confirm that the instrument is valid. Based on Table 1, all items have a value greater than 0.497. Therefore, it can be concluded that the instrument is valid.

Table 2. Reliability analysis results of the questionnaire to measure the need for a sports venue information system.

Cronbach's Alpha	N of Items
0.756	21

The reliability of the instruments used in this study obtained a value of 0.756 in Table 2. Therefore, these results indicate that the questionnaire on the need for sports information systems is reliable.

Descriptive Result

Table 3. Results of the descriptive analysis of each questionnaire to measure the need for a sports venue information system.

	N	Min	Max	Mean	Standard Deviation	Skewness		Kurtosis	
						Statistic	SE	Statistic	SE
Age	137	1.00	4.00	1.38	0.76	2.21	0.21	4.43	0.41
Province	137	1.00	15.00	3.75	3.20	1.69	0.21	2.53	0.41
Freq_of_Exercise	137	1.00	2.00	1.66	0.47	-0.70	0.21	-1.53	0.41
Needs	137	-1.48	1.55	0.00	1.00	0.09	0.21	-1.02	0.41
Do you have any health symptoms (non-communicable disease)?	137	1.00	2.00	1.47	0.50	0.10	0.21	-2.02	0.41

Do you have a healthy lifestyle?	137	1.00	2.00	1.50	0.50	-0.02	0.2 1	-2.03	0.4 1
Do you know that sports activities are precise for your health?	137	1.00	2.00	1.51	0.50	-0.04	0.2 1	-2.03	0.4 1
Do you use public facilities for sports?	137	1.00	2.00	1.49	0.50	0.04	0.2 1	-2.03	0.4 1
Have you ever participated in sporting events or competitions?	137	1.00	2.00	1.55	0.50	-0.22	0.2 1	-1.98	0.4 1
Do you do sports activities to maintain health?	137	1.00	2.00	1.47	0.50	0.10	0.2 1	-2.02	0.4 1
Do you engage in a physical endeavour for fun/leisure only?	137	1.00	2.00	1.50	0.50	0.02	0.2 1	-2.03	0.4 1
Do you do a physical activity just to educate yourself?	137	1.00	2.00	1.47	0.50	0.10	0.2 1	-2.02	0.4 1
Do you exercise because you desire your ideal body?	137	1.00	2.00	1.53	0.50	-0.10	0.2 1	-2.02	0.4 1
Are you having trouble finding a sports venue?	137	1.00	2.00	1.45	0.50	0.19	0.2 1	-1.99	0.4 1
Do you know the sports activities facilities around you?	137	1.00	2.00	1.47	0.50	0.13	0.2 1	-2.01	0.4 1
Do you use online media to find sports venues?	137	1.00	2.00	1.47	0.50	0.13	0.2 1	-2.01	0.4 1

Do you compare the existing facilities of the sports venue you desire to choose with other sports venues?	137	1.00	2.00	1.42	0.50	0.31	0.2 1	-1.93	0.4 1
Is an Android-based sports activities information system application available?	137	1.00	2.00	1.48	0.50	0.07	0.2 1	-2.02	0.4 1
Is there a want for an efficient and easy-to-use sports information application?	137	1.00	2.00	1.47	0.50	0.13	0.2 1	-2.01	0.4 1
Is there a need for an efficient and easy-to-use sports activities information application?	137	1.00	2.00	1.51	0.50	-0.04	0.2 1	-2.03	0.4 1
Total	137	10.0 0	20.0 0	14.96	3.66	0.08	0.2 1	-1.31	0.4 1
Valid N (listwise)	137								

Table 4. Value of Communalities
 Communalities

	Initial	Extraction
Do you have any health symptoms (non-communicable disease)?	1	0.558
Do you have a healthy lifestyle?	1	0.535
Do you know that sports activities are precise for your health?	1	0.492
Do you use public facilities for sports?	1	0.576
Have you ever participated in sporting events or competitions?	1	0.548
Do you do sports activities to maintain health?	1	0.549
Do you engage in a physical endeavour for fun/leisure only?	1	0.548
Do you do a physical activity just to educate yourself?	1	0.541

Do you exercise because you desire your ideal body?	1	0.586
Are you having trouble finding the sports venue?	1	0.562
Do you know the sports activities facilities around you?	1	0.453
Do you use online media to find sports venues?	1	0.532
Do you compare the existing facilities of the sports venue you desire to choose with other sports venues?	1	0.592
Is an Android-based sports activities information system application available?	1	0.581
Is there a want for an efficient and easy-to-use sports information application?	1	0.595
Is there a need for an efficient and easy-to-use sports activities information application?	1	0.672
Total	1	0.996

Extraction Method: Principal Component Analysis.

With the SPSS.25 application, the value of Communalities explains that the table above shows how well a variable can explain a factor. Item 1, with a value of (0.558), means item 1 can account for a factor of 55.8%. Likewise, with other elements, where all the elements are >50%, we can conclude that all the elements can explain the factor.

Table 5. Classification TCR

Presentation of Achievements	Criteria
85%-100%	Very Good
66%-84%	Good
51%-65%	Enough
36%-50%	Not Good
0%-35%	Less Good

(Sugiyono, 2012)

Table 6. TCR Score

Item	yes	no	Total	score	Mean	TCR	Category
1	72	65	137	202.00	1.47	0.73	Good
2	68	69	137	206.00	1.50	0.75	Good
3	67	70	137	207.00	1.51	0.75	Good
4	70	67	137	204.00	1.49	0.74	Good
5	61	76	137	213.00	1.55	0.77	Good
6	72	65	137	202.00	1.47	0.73	Good
7	69	68	137	205.00	1.50	0.74	Good
8	72	65	137	202.00	1.47	0.73	Good
9	65	72	137	209.00	1.53	0.76	Good

10	75	62	137	199.00	1.45	0.72	Good
11	73	64	137	201.00	1.47	0.73	Good
12	73	64	137	201.00	1.47	0.73	Good
13	79	58	137	195.00	1.42	0.71	Good
14	71	66	137	203.00	1.48	0.74	Good
15	73	64	137	201.00	1.47	0.73	Good
16	67	70	137	207.00	1.51	0.75	Good

Table 6 above explains that the TCR results show excellent categories for each item. Thus, all the elements constituting a questionnaire assessing the public's need for a sports activities information system are of precise value.

The excellent category in every object suggests that a sports information system's need is genuinely crucial to make it easier for people to locate sports activity sites for the community.

Discussion

This article will address the subject matter of statistics on the community sports activities information system's needs in Industry 4.0. Technology for Sport Management will attempt to provide a perception of how data technology (called IT) is altering the nature of administration practices in sports (Seifried et al., 2020; Wu et al., 2013). The discussion of program applications in the profession can be done in a few broad areas: (1) How the tools of brand new "technological revolution" can be utilised in sports activities administration(Wu et al., 2014); (2) How tendencies such as the Internet and the World Wide Web contribute to particular management functions such as training and marketing (Devecioğlu, 2017; Ong, 2015); (3) How e-commerce can make sports participation handier through more cost-effective gear and finally; (4) The digital divide: and an underlying circumstance that prevents some from fully taking part in the advantages of the pc revolution (Baerg, 2017).

We are dwelling in the midst of one of those very unusual activities that occur once every few generations: a societal paradigm shift. At the end of the last millennium noticed, a critical trade that brought society from the industrial age to the records (Matsui, 2017; Wu et al., 2013). The foreign money in this new emerging society is statistics, and the medium of alternate is called IT (and every

so often IT - CT). Computing is sincerely the tools and strategies used to identify, organise, and manipulate facts that we name data.

The excellent category of TCR confirmed the previous argument. The need for a sports information system is more excellent and extra fundamental in the industrial 4.0 era, thinking that every person is inseparable from an increasingly practical science (Moeuf et al., 2018; Wu et al., 2013). Information technology (in the future, referred to as IT) has become a benchmark for human civilisation development in today's information age (Crook, 2013; Miocic et al., 2019). Those who live in large cities that have benefited from the presence of modern technology worldwide depend on some of their activities technology, especially as a means of communication, such as the Internet, telephone, cell phone, GPS, computer networks, and others. IT support facilities, and infrastructure continues to develop. IT projects have sprung up everywhere, among others: website creation projects, renovation of office computer networks, manufacturing projects software for administrative applications in offices, and others (Crook, 2013; Matsui, 2017; Ong, 2015; Stuij & Stokvis, 2015).

The essential element is that these IT tools shortly become necessary for the sports activities administrator, regardless of the level of the sports hierarchy where it works. In general, the public needs a Sports Information System In The Industrial 4.0 to allow them to look for sports places to maintain their health.

CONCLUSION

It can be concluded from the TCR obtained from each item of the correct category of the questionnaire, so the need for the sports information system in Yogyakarta city is quite necessary. Thus, this becomes the basis for further research to develop an information system that can be used to identify sports venues for people to play sports.

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