Analysis of determining factors and the role of government interventions in improving the sports development index in Kudus regency SEM-PLS

Análisis de los factores determinantes y el papel de las intervenciones gubernamentales en la mejora del índice de desarrollo deportivo en la regencia de Kudus SEM-PLS

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Abstract

The research method, employs a quantitative approach using the SEM-PLS model (structural equation modeling with principal component analysis and partial linear regression), based on the partial least squares method, to analyze the influence of citizen participation, facilities and infrastructure, as well as human resources in the sports sector, on government interventions and the Sports Development Index.

The results, of the study show that all indicators meet the criteria for convergent validity, with factor loadings above 0.70. Furthermore, Cronbach's alpha and the composite reliability of all constructs are above 0.70, indicating that sports facilities influence human resources in the sports sector.

An analysis, of the quality of human resources in the sports sector plays a key role in increasing government involvement and accelerating the development of sports.

In conclusion, this study confirms that strengthening human resources in the sports sector supported by adequate facilities and active community participation is essential for boosting the Global Sports Development Index.

Keywords

Government SDI for Community Participation in Kudus SEM-PLS.

Resume

El método, de investigación utiliza un enfoque cuantitativo con el modelo SEM-PLS (modelo de ecuaciones estructurales con análisis de componentes principales y regresión lineal parcial), basado en el método de mínimos cuadrados parciales, para analizar la influencia de la participación ciudadana, las instalaciones y las infraestructuras, así como los recursos humanos en el sector del deporte, sobre las intervenciones gubernamentales y el Índice de Desarrollo Deportivo.

Los resultados, de la investigación muestran que todos los indicadores cumplen los criterios de validez convergente, con factores superiores a 0,70. Además, el coeficiente alfa de Cronbach y la fiabilidad compuesta de todos los constructos se sitúan por encima de 0,70, lo que indica que las instalaciones deportivas influyen en los recursos humanos del ámbito deportivo.

El análisis, de la calidad de los recursos humanos en el ámbito deportivo desempeña un papel fundamental a la hora de aumentar la implicación del gobierno y acelerar el desarrollo del deporte.

En conclusión, este estudio confirma que el fortalecimiento de los recursos humanos en el ámbito deportivo, respaldado por unas instalaciones adecuadas y una participación activa de la comunidad, es fundamental para impulsar el Índice de Desarrollo Deportivo a nivel mundial.

Palabras clave

Información espacial gubernamental para la participación ciudadana en Kudus; SEM-PLS.

Introduction

The Sport Development Index (SDI) is an important indicator in measuring the level of progress of sports development in a region.(Fikri et al., 2025),SDI covers several main dimensions such as community participation in sports, availability of open sports spaces, physical fitness levels, and human resources in the field of sports.(Musić Milanović et al., 2026)In Kudus Regency, increasing human resources is both a challenge and an opportunity to encourage higher quality human development.(Guo et al., 2026)Kudus Regency is known as a region with quite good sports potential, both in terms of community sports culture and athletes' achievements at the regional level.(Fauzi et al., 2025)However, increasing SDI does not only depend on this potential, but is also influenced by various complex determinants. These determinants include social, economic, infrastructure, policy, and community participation factors. One of the main determinants is the level of community participation in sports activities. This participation is influenced by public awareness of the importance of sports for health.(Xu et al., 2024)In Kudus, there are still community groups who have not made sports a routine need, resulting in a low sports participation index. In addition, educational factors also play an important role in shaping a sports culture.(M. Li et al., 2022)Physical education in schools is the initial foundation for instilling sports values. Optimal implementation of physical education will positively impact future human resource development.(Shi et al., 2024)The availability of sports facilities and infrastructure is also a significant determinant. In some areas of Kudus Regency, sports facilities are still limited and unevenly distributed. This hinders public access to sports activities, especially in rural areas.(Chen et al., 2024),Society's economic factors also influence an individual's ability to access sports facilities. Communities with lower economic levels tend to have limitations in utilizing paid sports facilities, so they need alternative public facilities that are free and easily accessible. Furthermore, human resources in the sports field, such as coaches, instructors, and sports personnel, are also a determining factor. The quality and quantity of adequate human resources will improve the quality of sports development in the community. The role of local sports organizations cannot be ignored.(Shi et al., 2024)Organizations such as sports clubs and communities play a significant role in encouraging community participation. In Kudus, the presence of sports communities needs to be continuously strengthened through government support.(Cvetković et al., 2024)Government intervention is a key factor in improving SDI. Regional governments have the authority to design policies that support sports development. These policies can include the construction of sports facilities.,(Y. Li et al., 2023), coaching programs, and healthy lifestyle campaigns.(Yu et al., 2024)One form of government intervention is the development of sports infrastructure. The Kudus Regency Government needs to ensure that sports facilities are evenly distributed and meet the needs of the community.(Zhou, 2025)The development of sports parks and green open spaces is a strategic solution. In addition to physical development, the government also needs to intervene through mass sports programs.(Zhang & Qin, 2026)Activities such as group exercise, car-free days, and sports festivals can significantly increase community participation. Another important intervention is improving the quality of physical education in schools. The government can provide training for teachers and adequate learning resources. This aims to increase students' interest in sports from an early age.(Zhou, 2025)The government also needs to encourage collaboration with the private sector. Partnerships with companies can help provide facilities and fund sports activities. Corporate Social Responsibility (CSR) programs can be utilized to support sports development in Kudus.(Bøhlerengen & Wiium, 2022)In a policy context, the government needs to develop data-driven strategic planning. Regular SDI measurements will help evaluate the effectiveness of implemented programs. This way, interventions can be tailored to the real needs of the community.(Hui & Ye, 2026)Technology can also be leveraged to improve SDI. Sports apps and digital platforms can be used to educate the public and monitor physical activity. The government can develop a digital-based sports information system. Furthermore, healthy lifestyle campaigns must continue to be promoted.(Ordiñana-Bellver et al., 2026)The government and the public need to raise awareness that exercise is an important part of daily life. This campaign can be conducted through mass media and social media. Strengthening regulations is also part of government intervention. Regional regulations supporting sports development need to be consistently enforced. These regulations cover facility management, athlete development, and support for sports communities.(Lu et al., 2026)Evaluation of ongoing programs is also crucial. The government needs to conduct regular monitoring and evaluation to identify obstacles and barriers to implementing sports programs. In the long term, increasing SDI will impact the community's quality of life. People who exercise actively tend to have better health, thereby

reducing the burden of healthcare costs.(Perkumienė et al., 2026)Furthermore, improving human resources (SDI) can also boost regional sporting achievements. With proper coaching, Kudus Regency has the potential to produce high-achieving athletes who can compete at the national and international levels.

Method

Participants

This study uses a quantitative approach with an explanatory research type, namely to analyze the causal relationship between determinant variables and the Sport Development Index (SDI) and to test the role of government intervention as a mediating variable.(Thunyacharoen et al., 2026)The research was conducted in Kudus Regency with research subjects being people who were active or had been involved in sports activities.

Population and Sample

The population in this study is all people in Kudus Regency who are involved in sports activities, both formally and informally.(Jiang & Neisch, 2026)This population includes students, university students, workers, and the general public who engage in sports or physical activity. This population is heterogeneous because it consists of individuals with diverse backgrounds, such as age, education level, occupation, and level of sports participation. Therefore, certain criteria are required in selecting the sample to ensure the data obtained is relevant to the research objectives.(Varea et al., 2025)The sample in this study was determined using a purposive sampling technique, namely a sampling technique based on certain considerations or criteria that are in accordance with the research objectives. The sample criteria used include: (1) aged 15 years, (2) having done sports activities in the last 6 months, and (3) domiciled in Kudus Regency.(Hernandez et al., 2026)The number of samples in this study was determined based on the methodPartial Least Squares StructuralEquation Modeling (PLS-SEM) with the help of SmartPLS software. Based on the general rules (rule of thumb), the minimum sample size is 5–10 times the number of indicators used in the study. With 25 indicators, the minimum sample size required is between 125 and 250 respondents. This number is considered sufficient to produce stable and accurate estimates in PLS-SEM analysis.

Operational Definition of Variables

The operational definition of variables in this study includes Community Participation (X1) which is defined as the level of community involvement in sports activities Facilities and Infrastructure (X2) which refers to the availability and access to sports facilities Sports Human Resources (HR) (X3) which describes the quality of sports coaches and instructors Government Intervention (Z) which includes government policies and programs in the field of sports and Sport Development Index (Y) which shows the level of sports development based on participation, fitness, facilities, and human resources. For operational variables can be seen in table.1 below.

Table 1. Variables and components of the test sample.

No	Variables	Component	Component Code
1	Community Participation (X1)	Exercise frequency	X1.1
		Exercise intensity	X1.2
		Motivation to exercise	X1.3
		Health awareness	X1.4
2	Facilities and Infrastructure (X2)	Availability of facilities	X2.1
		Quality of facilities	X2.2
		Accessibility	X2.3
		Utilization of facilities	X2.4
3	Sports Human Resources (X3)	Coach competency	X3.1
		Number of sports personnel	X3.2
		Trainer certification	X3.3
		Coach experience	X3.4
4	Government Intervention (Z4)	Sports policy	Z4.1
		Coaching program	Z4.2
		Budget support	Z4.3
		Sports socialization	Z4.4
5	Sport Development Index (Y5)	Sports participation	Y5.1

	Fitness level	Y5.2
	Sports infrastructure	Y5.3
	sports human resources	Y5.4

Reliability Test

Reliability testing is used to determine the level of consistency of research instruments in measuring variables. A variable is considered reliable if it has a Cronbach's Alpha value of ≥ 0.70 and a Composite Reliability value of ≥ 0.70. These values indicate that the indicators used in the research are capable of producing consistent and reliable results.(Rosemann, 2026)The higher the reliability value, the better the instrument's consistency in measuring the construct being studied. Conversely, if the reliability value is below 0.70, the indicator needs to be improved or eliminated.

Cronbach's Alpha

Cronbach's Alpha is a measure used to test the reliability or internal consistency of a research instrument.(Cesnik et al., 2026)The Cronbach's Alpha value indicates the extent to which items or indicators in a variable correlate with each other and are able to measure the same construct. A variable is declared reliable if it has a Cronbach's Alpha value ≥ 0.70. The higher the Cronbach's Alpha value, the better the level of consistency of the research instrument.(Cain et al., 2026)In the analysis using SmartPLS, Composite Reliability is usually used in conjunction with Cronbach's Alpha to ensure that the research instrument has a good level of reliability. If both values (Cronbach's Alpha and Composite Reliability) are ≥ 0.70, then the construct can be declared reliable and worthy of use in further analysis. The Cronbach's Alpha table can be seen in table 2 below.

Table 2. Cronbach's Alpha

Alpha Value	Criteria
≥ 0.90	Very Reliable
0.70 – 0.89	Reliable
0.60 – 0.69	Quite Reliable
< 0.60	Not Reliable

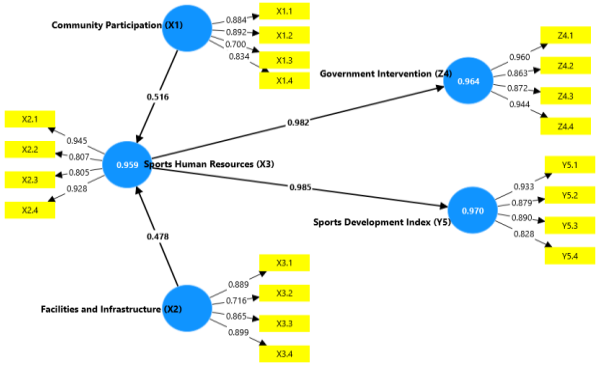
Composite Reliability

Composite Reliability is a measure of reliability in the PLS-SEM model which is used to assess the internal consistency of indicators in a latent variable.(Almufarreh, 2026)This test was conducted using SmartPLS.(Vu et al., 2026)A construct is declared reliable if it has a Composite Reliability value ≥ 0.70, which indicates that the indicators are able to measure the variables consistently and reliably.

Results

Outer Model

Figure 1. Outer Model SEM-PLS



The results of the analysis of the findings of the outer model image in Figure 1 above show that all indicators in each construct have met the criteria for good validity and reliability.(Shah et al., 2026),In the Community Participation variable (X1), the outer loading value is in the range of 0.700 which indicates invalidity and for 0.892, which indicates that all indicators have adequate convergent validity. The Facilities and Infrastructure variable (X2) also shows a high loading value, which is between 0.805–0.945, so that all indicators are stated to be very strong in reflecting their constructs. Furthermore, in the Sports Human Resources variable (X3), the outer loading value ranges from 0.716–0.899, which is still above the minimum limit of 0.70, so it is acceptable. For the Government Intervention variable (Z4), all indicators have high loading between 0.863–0.960, indicating very good consistency.(Huiqing & Junjie, 2026),Similarly, in the Sports Development Index variable (Y5), the indicators have loading values between 0.828–0.933, which indicates strong convergent validity. Overall, these results indicate that all indicators in the model have met the outer loading criteria of >0.70, so it can be concluded that the measurement model has a very good level of validity and reliability and is suitable for use in further analysis in the structural model so that the inner model stage.2 for more clarity can be seen in the outer model stage. 1 below.

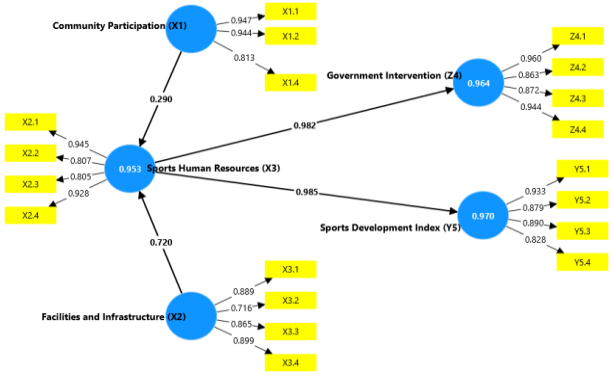
Table 3. Outer model stage 1

Variables	Community Participation (X1)	Facilities and Infrastructure (X2)	Government Intervention (Z4)	Sports Development Index (Y5)	Sports Human Resources (X3)	Information
X1.1	0.884					Valid
X1.2	0.892					Valid
X1.3	0.700					Valid
X1.4	0.834					Invalid
X2.1					0.945	Valid
X2.2					0.807	Valid
X2.3					0.805	Valid
X2.4					0.928	Valid
X3.1		0.889				Valid
X3.2		0.716				Valid
X3.3		0.865				Valid
X3.4		0.899				Valid
Y5.1				0.933		Valid
Y5.2				0.879		Valid
Y5.3				0.890		Valid
Y5.4				0.828		Valid
Z4.1			0.960			Valid
Z4.2			0.863			Valid
Z4.3			0.872			Valid
Z4.4			0.944			Valid

The results of the first stage of the outer model analysis show that in general all indicators in each construct have met the convergent validity criteria with outer loading values above 0.70. In the Community Participation (X1) variable, indicators X1.1 (0.884), X1.2 (0.892), and X1.3 (0.700) are declared valid, while X1.4 (0.834) actually meets the criteria so it needs to be reviewed if it is declared invalid. The Facilities and Infrastructure (X2) variable has a very high loading value, namely X2.1 (0.945), X2.2 (0.807), X2.3 (0.805), and X2.4 (0.928), which indicates that the indicators are very representative. Furthermore, in the Sports Human Resources (X3) variable, all indicators are also valid with values between 0.716 and 0.899. The Government Intervention variable (Z4) shows a very strong loading value (0.863–0.960), as does the Sports Development Index variable (Y5) with a range of 0.828–0.933.(Baradziej et al., 2026)Overall, the measurement model can be stated to have good convergent validity because the majority of indicators have outer loading >0.70, so it is suitable for use in further analysis, although there are inconsistencies in the assessment of indicator X1.4 that need to be re-considered. So that this study can be analyzed further to stage 2. The inner model can be seen in Figure 2 as follows.

Inner model

Figure 2. Inner Model SEM-PLS



The results of the inner model analysis in Figure 2 show that most indicators have met the convergent validity criteria with outer loading values above 0.70. In the Community Participation (X1) variable, the indicators used after elimination are X1.1 (0.947), X1.2 (0.944), and X1.4 (0.813), all of which show high and valid loading values, indicating that the indicators are able to represent the construct well. The Facilities and Infrastructure (X2) variable also shows very strong results with loading values ranging from 0.805 to 0.945. In the Sports Human Resources (X3) variable, all indicators have values between 0.716 and 0.899, so they are still declared valid. Furthermore, the Government Intervention (Z4) variable has a very high loading (0.863–0.960), and the Sports Development Index (Y5) variable also shows good validity with values between 0.828–0.933. Overall, this measurement model has met the outer loading criteria >0.70, so it can be concluded that all constructs have good convergent validity and are suitable for use in structural model analysis (inner model). To be clearer, the results of the inner model analysis can be seen in table 4 as follows.

Table 4. Inner model analysis

Variables	Community Participation (X1)	Facilities and Infrastructure (X2)	Government Intervention (Z4)	Sports Development Index (Y5)	Sports Human Resources (X3)	Information
X1.1	0.947					Valid
X1.2	0.944					Valid
X1.4	0.813					Valid
X2.1					0.945	Valid
X2.2					0.807	Valid
X2.3					0.805	Valid
X2.4					0.928	Valid
X3.1		0.889				Valid
X3.2		0.716				Valid
X3.3		0.865				Valid
X3.4		0.899				Valid
Y5.1				0.933		Valid
Y5.2				0.879		Valid
Y5.3				0.890		Valid
Y5.4				0.828		Valid
Z4.1			0.960			Valid
Z4.2			0.863			Valid
Z4.3			0.872			Valid
Z4.4			0.944			Valid

The results of the inner model analysis in table.4 show that all indicators in each variable have met the convergent validity criteria with outer loading values above 0.70. In the Community Participation (X1) variable, indicators X1.1 (0.947), X1.2 (0.944), and X1.4 (0.813) are declared valid and able to represent the construct strongly. The Facilities and Infrastructure (X2) variable also shows a high loading value, namely between 0.805 and 0.945, so that all indicators are declared valid. In the Sports Human Resources (X3) variable, the indicator has a value between 0.716 and 0.899 which is still above the minimum limit, so it remains valid. Furthermore, the Government Intervention (Z4) variable has a very

strong loading value (0.863–0.960), and the Sports Development Index (Y5) variable also shows good results with a value between 0.828–0.933. Thus, it can be concluded that all indicators in the model have met the outer loading criteria >0.70, so that the measurement model has good convergent validity and is suitable for use for further analysis to the Cronbach's Alpha stage. To further see the results of the Cronbach's Alpha analysis, it can be seen in table 5.

Cronbach's Alpha

Table 5. Results of Cronbach's Alpha analysis

Variables	Cronbach's alpha	Information
Community Participation (X1)	0.884	Reliable
Facilities and Infrastructure (X2)	0.864	Reliable
Government Intervention (Z4)	0.931	Reliable
Sports Development Index (Y5)	0.905	Reliable
Sports Human Resources (X3)	0.894	Reliable

The results of the reliability test analysis using Cronbach's Alpha in table.5 show that all variables in the study have a very good level of reliability. This is indicated by the Cronbach's Alpha value for each construct, namely Community Participation (X1) of 0.884, Facilities and Infrastructure (X2) of 0.864, Government Intervention (Z4) of 0.931, Sports Development Index (Y5) of 0.905, and Sports Human Resources (X3) of 0.894, all of which are above the minimum limit of 0.70. Thus, it can be concluded that all constructs in this research model are declared reliable and have high internal consistency, so they are suitable for further analysis to better understand the Composite Reliability analysis can be seen in table.6 as follows

Composite Reliability

Table 6. Composite Reliability Test

Variables	Composite reliability	Information
Community Participation (X1)	0.898	Reliable
Facilities and Infrastructure (X2)	0.928	Reliable
Government Intervention (Z4)	0.951	Reliable
Sports Development Index (Y5)	0.934	Reliable
Sports Human Resources (X3)	0.909	Reliable

The results of the Composite Reliability test analysis in table.6 show that all variables in the study have a very good level of reliability. The composite reliability value for each construct, namely Community Participation (X1) of 0.898, Facilities and Infrastructure (X2) of 0.928, Government Intervention (Z4) of 0.951, Sports Development Index (Y5) of 0.934, and Sports Human Resources (X3) of 0.909, are all above the minimum limit of 0.70. This indicates that each construct has high internal consistency and is able to measure variables stably. So this study can be continued to the analysis of hypothesis submission which can be seen in table.7 as follows.

Significance of Hypothesis

Table 7. Results of Hypothesis Test Analysis

Variables	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Information
Community Participation (X1) -> Sports Human Resources (X3)	0.249	0.249	0.067	3,710	0.000	Positive Reliable
Facilities and Infrastructure (X2) -> Sports Human Resources (X3)	0.722	0.722	0.067	10,714	0.000	Positive Strong Reliable
Sports Human Resources (X3) -> Government Intervention (Z4)	0.967	0.967	0.003	347,301	0.000	Positive High Reliable
Sports Human Resources (X3) -> Sports Development Index (Y5)	0.966	0.966	0.004	267,289	0.000	Very Highly Reliable

The results of the hypothesis test analysis in table.8 show that all relationships between variables in the model have a positive and significant influence. This is evidenced by the T-statistic value greater than 1.96 and P-values of 0.000 (<0.05) in each path. Community Participation (X1) has a positive effect on Sports Human Resources (X3) with a coefficient of 0.249, while Facilities and Infrastructure (X2) shows a stronger positive effect on Sports Human Resources (X3) with a coefficient of 0.722. Furthermore, Sports Human Resources (X3) has a very high influence on Government Intervention (Z4) of 0.967 and on the Sports Development Index (Y5) of 0.966. Thus, all hypotheses in this study are accepted, where sports human resources are a key factor that is very decisive in increasing government intervention and sports development in Kudus.

Discussion

The results of the measurement model analysis (outer model) which aims to test the validity and reliability of indicators for each latent construct.(Rentroia-Pacheco et al., 2026)The results obtained indicate that in general all indicators have met the convergent validity criteria as indicated by outer loading values above 0.70. This indicates that the indicators used in the study are able to adequately represent the construct being measured. In the Community Participation variable (X1), most indicators show good outer loading values, which are in the range of 0.700 to 0.892. This value indicates that the indicators have a fairly strong contribution in forming the community participation construct. However, indicators with values exactly at the minimum limit such as 0.700 require special attention in interpretation, although they are still statistically acceptable. Furthermore, in the Facilities and Infrastructure variable (X2), all indicators show very high outer loading values, which range from 0.805 to 0.945. This indicates that facilities and infrastructure are very strong constructs and their indicators have excellent ability to explain the latent variable. The Sports Human Resources variable (X3) also showed good results with outer loading values between 0.716 and 0.899. This value is above the minimum required limit, so it can be concluded that the indicators in this variable have adequate convergent validity and are suitable for use in further analysis. In the Government Intervention variable (Z4), all indicators showed very high outer loading values, namely between 0.863 and 0.960. This indicates that the government intervention construct has a very strong level of consistency and the indicators are very representative in measuring this variable. Similarly, in the Sports Development Index variable (Y5), the outer loading values obtained were in the range of 0.828 to 0.933. These values indicate that the indicators have strong convergent validity and are able to accurately describe the level of sports development.(Ghorbani & Blankesteijn, 2026)Overall, the results of the first stage of the outer model analysis indicate that the majority of indicators have met the established criteria. However, there is a slight inconsistency in the X1.4 indicator which actually has a value above 0.70 but was previously declared invalid. This needs to be reviewed to avoid misinterpretation in the analysis. In the next stage, model improvements were made by eliminating indicators that were considered less than optimal. The results of the second stage of the outer model show an increase in model quality, especially in the Community Participation variable (X1), where the remaining indicators have higher loading values, namely above 0.80. This model improvement demonstrates that the indicator evaluation process in SEM-PLS is crucial for obtaining a more optimal measurement model. Eliminating less robust indicators can improve the overall construct validity and reliability.(She et al., 2026)The inner model results show that all constructs have met the convergent validity criteria after model improvements. This indicates that the model used in the study is good enough to explain the relationship between latent variables. Therefore, reliability testing using Cronbach's Alpha shows that all variables have values above 0.70. This indicates that each construct has good internal consistency and can be relied upon to measure the research variables. The highest Cronbach's Alpha value is found in the Government Intervention variable (Z4), which indicates that the indicators in this variable have a very high level of consistency. This reinforces the previous results that this construct is very stable. In addition, the results of the Composite Reliability test also show values above 0.70 for all variables. This indicates that the constructs in the study have very good reliability and are able to provide consistent results. By fulfilling the validity and reliability criteria, the research model can proceed to the hypothesis testing stage. This

indicates that the model used has met the standards in SEM-PLS analysis. The results of the hypothesis test show that all relationships between variables are positive and significant. This is evidenced by the T-statistic value greater than 1.96 and P-values smaller than 0.05. The influence of Community Participation (X1) on Sports Human Resources (X3) shows positive results, although not as large as the influence of other variables. This indicates that community participation still plays a role in the development of sports human resources. Conversely, Facilities and Infrastructure (X2) has a much stronger influence on Sports Human Resources (X3). This indicates that the availability of facilities and infrastructure is a major factor in improving the quality of sports human resources. Furthermore, Sports Human Resources (X3) has a very significant influence on Government Intervention (Z4). This shows that the quality of sports human resources can encourage increased attention and intervention from the government. In addition, Sports Human Resources (X3) also has a very strong influence on the Sports Development Index (Y5). This confirms that sports human resources are a key factor in overall sports development. This finding is in line with the theory of sports development which states that the quality of human resources is the main foundation in improving the achievements and sports systems of a region. Overall, the results of this study indicate that the model used has excellent validity and reliability and is able to significantly explain the relationships between variables. Thus, this study makes an important contribution to the development of sports policy.especially in increasing the role of human resources as the main factor in sports development in the region.

Conclusions

In conclusion, improving the Sports Development Index (SDI) in Kudus Regency requires optimizing the role of human resources in sports as a key factor in sports development. The government needs to improve the quality of coaches, athletes, and sports personnel through ongoing training programs, certification, and competency development based on regional needs. Furthermore, the provision and equitable distribution of sports facilities and infrastructure must be a priority to maximally support community sports activities.

Ethics Committee Statement

The publication ethics used in this research refer to The Committee on Publication Ethics (COPE) and Regulation of the Head of LIPI Number 5 of 2014 concerning the Code of Ethics for Scientific Publications, Regulation of the Minister of Research, Technology and Higher Education of the Republic of Indonesia Number 9 of 2018 concerning Accreditation of Scientific Journals.

Conflict of Interest Statement

The authors declare no conflict of interest related to this article.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available due to the potential for respondent-identifying information and due to ethical considerations. However, all data used in the analysis have been validated and are available for academic purposes, research replication, or verification of results with the author's consent.

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