

Confirmatory factor analysis intellectual capital village apparatus on improving community services

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Abstract

This study aims to analyze and confirm the intellectual factors of village apparatus capital in improving services to the community. The method used in this study is Confirmatory Factor Analysis (CFA), which aims to test the validity and reliability of the intellectual construct of capital consisting of human capital, structural capital, social capital, relational capital, cultural capital, customer capital, organizational capital, and service capital. Data was collected through a survey of village officials in Sungai Penuh City using a questionnaire that had been tested previously. The results of the measurement of CFA first order on the latent variable there is one variable that is not significant, namely service capital with an LFE value of < 0.5 . Intellectual capital exerts a good and considerable influence on the performance of village apparatus in Sungai Penuh City, while knowledge has no positive and significant effect on the performance of village apparatus in Sungai Penuh City. To see the role of knowledge as an intervening variable, it can be concluded that the correlation between Intellectual capital and the performance of village apparatus in Sungai Penuh City is better without going through the knowledge variable as a mediating variable in improving the performance of the village apparatus in Sungai Penuh City.

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1. Introduction

In the globalization era and the advancement of information technology, the role and importance of the use of knowledge in enhancing the quality of public services has been increasingly concerned. Local governments have paid attention to the critical role of village officials in delivering services to the community (Ardiansari et al., 2018). However, to ensure the effectiveness and efficiency of the services provided, it is essential to possess a profound comprehension of intellectual capital possessed by the village apparatus and its effects on enhancing the community services quality.

The Indonesian government has established policies to improve the quality of community services at all levels of government, including in Sungai Penuh City. This city, like many cities in Indonesia, faces various challenges in providing quality services to the community, including those related to limited human resources and access to necessary information. Therefore, it is essential to identify factors that enhance the efficiency and efficacy of community services, and intellectual

capital of knowledge-based village apparatus is one of the key factors that need to be considered. The concept of intellectual capital is a combination of intellectual capacity, knowledge, experience, and abilities possessed by an individual or organization (Jaradat et al., 2024; Silva et al., 2021). At the village level, intellectual capital is the key to improving the ability to manage various aspects of community services (Cahyono & Ardianto, 2024).

Improving the quality of community services is one of the main challenges in village governance. Village apparatus as implementers of administration and public services have a strategic role in ensuring the effectiveness and efficiency of services provided to the community. However, there are still many villages that face obstacles such as limited human resources, lack of a structured administrative system, and low community involvement in village development. In this context, Intellectual Capital is an important factor that can improve the performance of village apparatus in providing better services. According to Al-Husseini (2023), intellectual capital is a term that has many different definitions in different economic theories. The sole impartial definition pertains to the discourse on "intangible assets" within economics and the proposition that money generates intellectual property. Intellectual capital for villages that map the potential to support the achievement of village development, the existence of this action aims to end poverty, reduce inequality, and protect the environment (Tung, 2024). Intellectual Capital for Villages (ICV) can not only be used to photograph. Still, it can also identify and then become the entrance to the management and maximization of village intellectual assets (Do & Do, 2024).

The village constitutes a legal entity with defined territorial borders, empowered to control and administer governmental matters and the interests of the local community derived from collective initiatives. A village can progress with the cooperation of village partnerships with village sub-districts or other villages (Siswadhi et al., 2024). Partnerships in villages usually carry out village cooperation with the community to improve village development and welfare, but most villages in Indonesia are still left behind due to the lack of community awareness that still attaches importance to their interests, a village must have a partnership under the auspices of the village which includes BPD (Village Consultative Body), Youth organizations, community leaders, women driving the village economy and village officials. With the Village Partnership, sustainable development can be realized. Villages are said to be prosperous because of the success of development that involves partnerships if village partnerships do not assist it, it will not succeed or may take a very long time in the village development process (Sari, 2023; Sari et al., 2022).

Currently, research about intellectual capital with community service is garnering growing interest among academics and practitioners. However, research that specifically examines the relationship between the intellectual capital of knowledge-based village apparatus and the improvement of community services is still relatively rare, especially in the context of village apparatus. Research on intellectual capital discusses enhance of intellectual capital on employee performance in Banks (Faozan et al., 2023; Haddad et al., 2023; Hossain & Rana, 2024; Van Nguyen & Lu, 2024). Research on the enhancement of the intellectual capital dimension on knowledge management in firm organizations (Ahmed et al., 2022; Muftiasa et al., 2023; Saraswati et al., 2024; M. Shubita, 2022). Research on the enhancement of intellectual capital in increasing the performance company's financial (Ahmed et al., 2022; Cahyono & Ardianto, 2024; Singhal et al., 2022). Study about the correlation between intellectual capital with political performance (Lewaherilla et al., 2024). Research on the enhancement of intellectual capital to increase SMEs' productive (Do & Do, 2024; Suci et al., 2024). The investigation of enhancing intellectual capital to business productivity performance (Al-Dhubaibi, 2024; Asyik et al., 2022; Jaradat et al., 2024; Li, 2024; Salangka et al., 2024; Slavkovic & Ognjanovic, 2024; Uriguen Aguirre & Avolio Alecchi, 2023; Utomo et al., 2023).

Intellectual Capital consists of three main elements, namely human capital, structural capital, social capital, relational capital, cultural capital, customer capital, organizational capital, and

service capital. These elements play a role in improving administrative efficiency, building public trust, and encouraging innovation in village services. However, there are still few studies that empirically measure the relationship between Intellectual Capital and the quality of community services at the village level. The gaps in this research, No research discusses the concept of intellectual capital for village apparatus, so the state of the art in this research: (1) Intellectual capital and community service: Recent research highlights that intellectual capital is important in improving the quality of community services. The concept of Intellectual capital covers things like new ideas, competencies, soft skills, hard skills also knowledge, and experiences possessed by individuals or organizations. In the context of village apparatus, strong intellectual capital can produce innovation, efficiency, and improvement in the quality of services provided to the community. (2) Knowledge Management: Knowledge management has been a significant focus of research to understand how knowledge can be integrated and utilized effectively in the context of community service. In this case, research on how village apparatus can manage and utilize knowledge optimally to improve community services is an interesting topic to be explored further (3) Confirmatory Factor Analysis: The use of the confirmatory analysis method in this study shows a sophisticated and strong approach in testing the relationship between complex variables, such as intellectual capital, village apparatus, and community service improvement. By using this approach, research has an advantage in validating constructs and testing hypotheses with a more structured and precise approach. (4) Local Context of Sungai Penuh City: Research that examines the relationship between knowledge-based village capital intellectuals and the improvement of community services in Sungai Penuh City has high relevance in the context of local development and sustainable development.

By understanding the specific dynamics that occur in Sungai Penuh City, this research can provide valuable insights for local governments in designing more effective and results-oriented policies. The novelty of the research is the application of the Appropriate Analysis Method, using the Confirmatory Factor Analysis (CFA) analysis method in this study shows the novelty in the methodological approach. This method allows researchers to test and validate the intellectual construct of village apparatus capital in a more detailed and structured manner. Thus, this study will provide more accurate and reliable results in measuring complex variables. Therefore, this study uses Confirmatory Factor Analysis (CFA) to test the validity and reliability of indicators that form the construction of Intellectual Capital in village apparatus. The CFA allows testing whether the proposed conceptual model corresponds to empirical data collected from the village apparatus in Sungai Penuh City, Jambi Province, Indonesia. Thus, the results of this study are expected to provide a deeper understanding of the role of Intellectual Capital in improving the quality of community services and become the basis for policy development to strengthen the capacity of village apparatus in local governance.

However, there has been no research that specifically explores and empirically tests the relationship between the intellectual capital of knowledge-based village apparatus and the improvement of community services. Therefore, the urgency of this study is to conduct Confirmatory Factor Analysis (CFA) as an analysis way allows to test the intellectual construction of knowledge-based village apparatus capital, as well as analyze its impact on improving community services in Sungai Penuh City.

This study aims to: (1) Test the Validity and Reliability of Intellectual Capital Constructs, ensure that human capital, structural capital, social capital, relational capital, cultural capital, customer capital, organizational capital, and service capital as elements of Intellectual Capital really form a concept that can be measured empirically in the context of village apparatus. (2) Analyzing the Relationship between Intellectual Capital and Community Service Quality, assessing the extent to which the intellectual capital of village officials contributes to improving the effectiveness and efficiency of public services at the village level. (3) Identifying Factors that affect the Performance of

Village Apparatus in Public Services by Revealing the main factors in Intellectual Capital that have the most significant impact on improving the quality of community services. Through this research, it is hoped that a deeper understanding of the role of Intellectual Capital in improving village governance can be obtained, as well as providing a scientific basis for policies that aim to improve the quality of community services sustainably.

Quality community services are an important indicator of the success of village government. However, in many villages, there are still various challenges such as the lack of competence of village officials, weak administrative systems, and low community involvement in development. Intellectual Capital, which consists of human capital, structural capital, social capital, relational capital, cultural capital, customer capital, organizational capital, and service capital, is believed to increase the effectiveness of village apparatus in providing better services. Although the concept of Intellectual Capital has been widely used in business and government organizations, there are still few studies that empirically test its relevance to the improvement of community services at the village level. Therefore, this study uses Confirmatory Factor Analysis (CFA) to test whether intellectual capital indicators can be statistically validated in the context of village apparatus, as well as how intellectual capital is related to improving the quality of public services. Based on this background, this study formulates several main questions: (1) Is the structure of Intellectual Capital consisting of human capital, structural capital, social capital, relational capital, cultural capital, customer capital, organizational capital, and service capital valid and reliable in the context of village apparatus?, (2) To what extent does Intellectual Capital affect the improvement of the quality of community services in the village?, (3) Which factors in Intellectual Capital Capital that has the most significant influence on the performance of village apparatus in providing public services?

By answering these questions, this research is expected to provide deeper insights into the role of Intellectual Capital in village governance, as well as provide a basis for policies and strategies to increase the capacity of village apparatus in serving the community.

2. Methods

The author's research form uses quantitative causal associative research. Causal associative research is a study designed to find the effect of two or more factors (Pardede et al., 2019). The associative causal quantitative research design was chosen because associative causal quantitative research design was chosen in the Confirmatory Factor Analysis (CFA) research because CFA aims to test the causal and associative relationship between latent variables and their indicators based on existing theories. A quantitative approach is necessary because CFA uses statistical analyses such as factor loading, goodness of fit index (GFI), and root mean square error of approximation (RMSEA) to confirm the validity and reliability of constructs. This design allows testing whether an indicator significantly shapes a particular factor or construct in a theoretical model. Thus, confirmatory CFA research is more appropriate using an associative causal quantitative approach because it ensures that the relationship between variables can be objectively tested with numerical data and measurable statistical methods. The research site is located in the village office in Sungai Penuh City, Jambi Province, Indonesia. The location of the research in the village in Sungai Penuh City was chosen in the study because the village is the center of government and community service implementation at the local level, so it is an ideal place to analyze how the intellectual capital of the village apparatus affects the effectiveness of public services. Sungai Penuh City was chosen because it has diverse village characteristics, reflecting challenges in village governance, the quality of human resources of village apparatus, and community involvement in development. The population in this study uses all village apparatus in Sungai Penuh City. Village apparatus. Consists of: a. Village Secretary b. Head of Administrative and General Affairs; c. Head of Financial Affairs; dan d. Head of Planning

Affairs. The sample withdrawal in this study was using a purposive sampling technique with the criteria being village officials who have a minimum education of Diploma. Purposive sampling is a method for selecting samples based on specific criteria (Islam, 2018). The sample requirements were determined by the level of education, requiring at least a diploma as the minimum educational qualification. For this reason, 144 participants served as samples for the research.

Confirmatory Factor Analysis is an analysis method to find whether there is one or several variables that are latent (cannot be observed directly) that are the cause of why a set of variables correlate with each other (Saptono, 2017). Confirmatory Factor Analysis (CFA) is used to test the validity and reliability of the Intellectual Capital construct consisting of human capital, structural capital, social capital, relational capital, cultural capital, customer capital, organizational capital and service capital of village apparatus. Confirmatory Factor Analysis (CFA) ensures that the indicators used are truly representative of each factor, so that the research model can be tested empirically. Through this analysis, it can be ascertained that each latent variable has a strong relationship with the measured indicators, so that the results of the study are more accurate and can be used as a basis for evaluating how Intellectual Capital affects the effectiveness of village apparatus in providing services to the community.

3. Results and discussion

A. Confirmatory Factor Analysis Intellectual Capital

The first latent variable which is part of the intellectual capital pillar development is composed of eight latent variables.

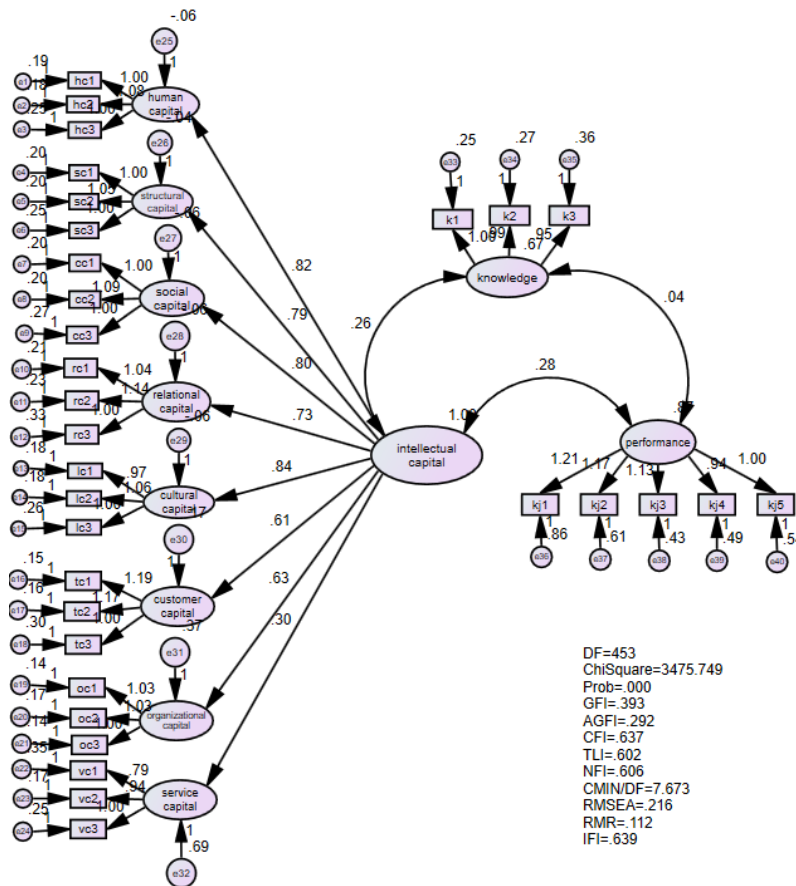


Figure 1. Analysis of Second-Order Confirmatory Factors

Analysis of Second-Order Confirmatory Factors is used for validating the factors that hinder financing in terms of convergent validity and discrimination after the components are identified from the EFA (Sari et al., 2024). Convergent validity processes the extent to which each item in the underlying construct has a share in the same proportion as other items in the same construct (Elizar et al., 2017). Hair et al. in Darmayanti et al., (2021) explained that there are three ways to determine convergent validity, namely standard factor loading, the average variance extracted (AVE) and construct reliability (CR). Standardized factor loading shows the relationship between items and latent constructs while average variance extracted indicates the extent to which the items meet among the same constructs. Concept reliability assesses the degree to which the underlying variables of a concept and its associated items are accurately represented. in structural equation modeling (SEM).

Table 1. Convergent Validity

	Composite Reliability (>0.6)	Result
Human Capital	14.405	Approved
Structural Capital	12.968	Approved
Social Capital	13.191	Approved
Relational Capital	11.978	Approved
Cultural Capital	13.537	Approved
Customer Capital	9.452	Approved
Organizational Capital	9.160	Approved
Service Capital	3.702	Approved

As illustrated in Table 1, all constructs have reached the threshold value for CR above 0.6. Upon establishing convergent validity, the subsequent step is to evaluate the model's feasibility (Goodness of Fit) in the second-order Confirmatory Factor Analysis (CFA). An assessment of the model's viability is conducted; if the model satisfies at least one eligibility criterion, it may be utilised in subsequent analyses. Nonetheless, if the model fails to satisfy the eligibility criteria, modifications to the model are required. Table 2 below summarises the calculation of the qualifying criteria for the model.

Table 2. Model Viability Assessment

No	Goodness of Fit Index	Cut Off Value	Result	Conclusion
1.	Chi-Square	Expected small	3475,749	Unqualified
2.	Significance Probability	≥ 0,05	000	Unqualified
3.	GFI	≥ 0,90	0,393	Unqualified
4.	RMSEA	≥ 0,08	0,216	Unqualified
5.	AGFI	≥ 0,90	0,292	Unqualified
6.	CFI	≥ 0,90	0,637	Unqualified
7.	TLI	≥ 0,90	0,602	Unqualified
8.	IFI	≥ 0,90	0,639	Unqualified

The model presented in Table 2 is unfeasible. This is due to the absence of definitive fit measures and incremental fit measure requirements that demonstrate the model's adequacy. It is essential to amend the model depicted in the diagram.

The CFA second-order model that has been analyzed in the previous step does not show a matching result against one of the cut off values of the goodness of fit index, so it is necessary to make modifications to make the model better. In CFA, each indicator has errors that can degrade the goodness of the model. Therefore, modifications are made by correlating the error variance between indicators. The purpose of this modification is to reduce errors so that it will result in a better

goodness of fit value than before. The following is a table that summarizes the error variance that is corrected.

Figure 2 presents a path diagram along with the qualifying requirements for the improved model. Subsequently, an assessment of the model's viability is conducted; if the model satisfies at least one eligibility criterion, it may be utilised in the subsequent study. Table 3 below summarises the calculation of the qualifying requirements for the model.

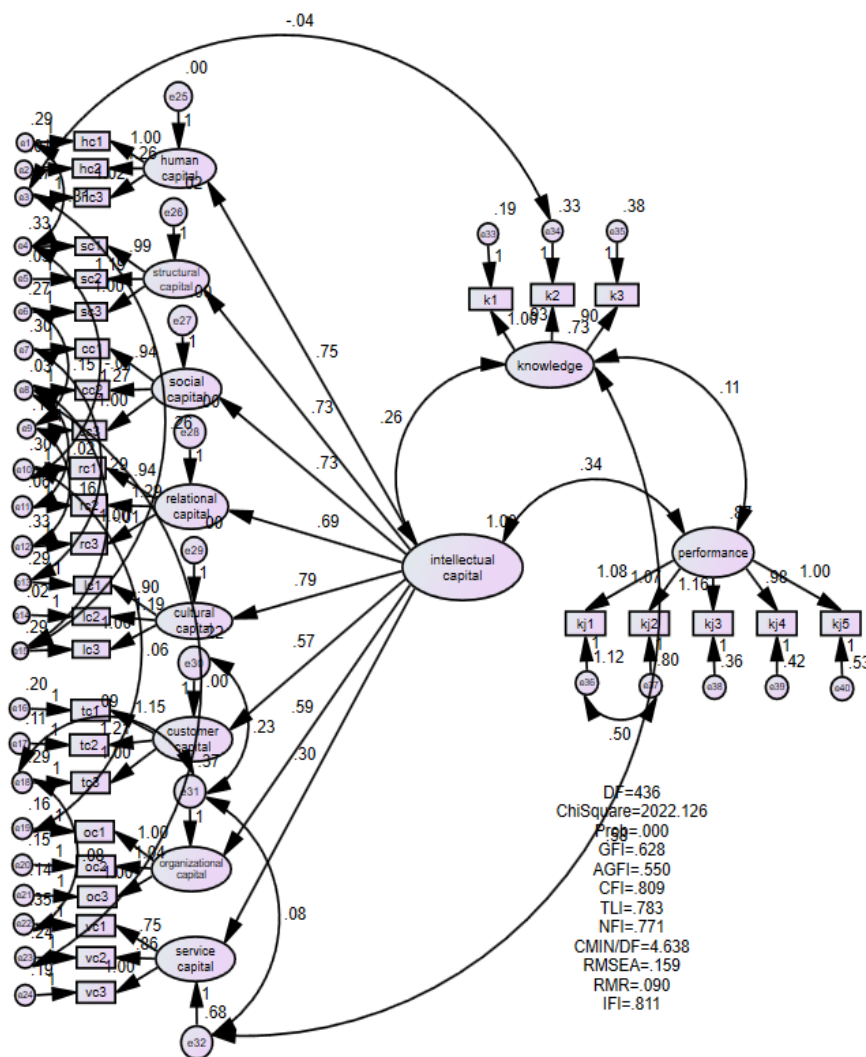


Figure 2. Results of the Second Order Confirmatory Factor Analysis Modifications

Table 3. Results of Model Feasibility Test Modifications

No.	Goodness of Fit Index	Cut Off Value	Result	Conclusion
1)	Chi-Square	Expected small	2000,126	Unqualified
2)	Significance Probability	≥ 0,05	.000	Unqualified
3)	GFI	≥ 0,90	0,628	Unqualified
4)	RMSEA	≥ 0,08	0,159	Unqualified
5)	AGFI	≥ 0,90	0,550	Unqualified
6)	CFI	≥ 0,90	0,809	Marginal Fit
7)	TLI	≥ 0,90	0,783	Unqualified
8)	IFI	≥ 0,90	0,811	Marginal Fit

Table 3 indicates that the resultant model has improved compared to its predecessor. Nevertheless, there exists no singular criterion for the absolute fit measure that definitively

demonstrates model adequacy. Currently, the incremental fit measures indicate that only two criteria suggest the model is marginally acceptable or remains within the threshold cutoff value: a CFI of 0.809 and an IFI of 0.811. The model's requirements are deemed satisfactory if at least one criterion from the quality of fit index is satisfied. To facilitate subsequent study of the model. The subsequent step is to evaluate the resultant loading factor. The standardised loading factors yielded results exceeding 0.50.

Table 4. Calculation of Loading Factor Value

The First Order Confirmatory Factor Analysis			Estimate	S.E.	C.R.	P
Human capital	<---	Intellectual capital	.747	.061	12.244	***
Structural capital	<---	Intellectual capital	.731	.061	11.949	***
Social capital	<---	Intellectual capital	.732	.056	13.154	***
Relational capital	<---	Intellectual capital	.686	.063	10.858	***
Cultural capital	<---	Intellectual capital	.790	.065	12.168	***
Customer capital	<---	Intellectual capital	.568	.064	8.887	***
Organizational capital	<---	Intellectual capital	.595	.067	8.899	***
Service capital	<---	Intellectual capital	.299	.078	3.846	***
Second Order Confirmatory Factor Analysis			Estimate	S.E.	C.R.	P
hc1	<---	Human capital	1.000			
hc2	<---	Human capital	1.260	.072	17.594	***
hc3	<---	Human capital	1.018	.082	12.426	***
sc3	<---	Structural capital	1.000			
sc2	<---	Structural capital	1.193	.071	16.712	***
sc1	<---	Structural capital	.990	.081	12.262	***
cc3	<---	Social capital	1.000			
cc2	<---	Social capital	1.266	.063	20.031	***
cc1	<---	Social capital	.944	.077	12.296	***
rc3	<---	Relational capital	1.000			
rc2	<---	Relational capital	1.291	.096	13.412	***
rc1	<---	Relational capital	.940	.094	9.991	***
lc3	<---	Cultural capital	1.000			
lc2	<---	Cultural capital	1.193	.069	17.181	***
lc1	<---	Cultural capital	.903	.077	11.727	***
tc3	<---	Customer capital	1.000			
tc2	<---	Customer capital	1.214	.087	14.027	***
tc1	<---	Customer capital	1.152	.091	12.610	***
oc3	<---	Organizational capital	1.000			
oc2	<---	Organizational capital	1.042	.055	18.913	***
oc1	<---	Organizational capital	.996	.055	18.270	***
vc3	<---	Service capital	1.000			
vc2	<---	Service capital	.863	.062	13.954	***
vc1	<---	Service capital	.748	.067	11.089	***

Each latent variable, namely human capital, structural capital, social capital, relational capital, cultural capital, customer capital, organizational capital and service capital has a α value below 0.05 and standardized loading factors above 0.5. This figure shows that each variable has good validity of discrimination and reliability. The values listed in the table above show that the value of standardized loading factors in the First Order Confirmatory Factor Analysis with eight dimensions with the result that there is one dimension of service capital has a standardized loading factor value below 0.05 with a value of 0.299. So there are seven dimensions that are reliable to be used as a measure of intellectual capital.

- b. The influence of knowledge on Performance with a critical value (CR) of -0.554 (< 1.96) with a significance probability of 0.580 means more significant than the standard of 0.05 . Knowledge positively influences the functioning of the village apparatus performance in Sungai Penuh City.

2. Direct and Indirect Effects

a. Direct effect

The direct influence is represented by a singular arrow in the diagram and aligns with the specified hypothesis. The subsequent are the direct impacts on this research model:

Table 6. Direct Effect

	intellectual_capital	knowledge
knowledge	.257	.000
performance	.299	-.061

The table above shows that the direct effect of intellectual capital on knowledge is 0.257 ; The influence of intellectual capital on performance is 0.299 and the influence between knowledge on performance is -0.061 because the diagram is connected with one arrow. Based on the results of the analysis, it appears that the influence of intellectual capital on performance is greater than the influence of knowledge on performance ($0.257 > -0.061$).

b. Indirect Effect

Indirect Effect is to be able to identify the indirect influence between exogenous constructs on endogenous constructs that are not intended with direct arrows. Here is the magnitude of the indirect influence on the research model.

Table 7. Indirect Effect

	intellectual_capital	knowledge
knowledge	.000	.000
performance	-.016	.000

Based on the table above, it appears that intellectual capital has an indirect influence on performance of -0.016 .

3. Intervening Effect Testing

Additionally, to assess the impact of product quality and advertising on customer loyalty, with customer satisfaction as a mediating variable, one can compare the values of standardised direct effects and standardised indirect effects.

Table 8. Standardized Direct and Indirect Effect Results

	Standarized Direct Effect		Standarized Indirect Effec	
	knowledge	performance	knowledge	performance
intellectual_capital	0,316	0,321		-0,017
knowledge		-0,530		

The intervening variable is evident when contrasting the Standardised Indirect Effect (-0.017) with the Standardised Direct Effect (0.321). If the standardized direct effect surpasses the standardized indirect effect, it can be stated that the knowledge variable does not function as an intervening variable between intellectual capital and performance. The link between intellectual capital and intellectual capital is more effective without the mediation of the knowledge variable.

Discussion

The influence of the intellectual capital dimension on the performance of village apparatus

Intellectual Capital has a significant effect on the performance of village apparatus in providing more effective and efficient services to the community. Human Capital, which includes the competence, skills, and experience of village apparatus, increases their capacity to manage administration and make strategic decisions. The results of this study were supported by researchers (Hashim et al., 2022) with the result that human capital has a favorable impact on MFI performance.

Structural Capital has a great influence on the performance of village apparatus by providing systems, procedures, and infrastructure that support the effectiveness of work and public services. A clear organizational structure, organized regulations, and an efficient administrative system allow village officials to carry out their duties more organized and accurately. In addition, the use of technology and innovation in village governance can accelerate the service process, increase transparency, and facilitate public access to village information and services. With a strong Structural Capital, village officials can work more professionally, increase productivity, and create a more responsive, efficient, and accountable village government system. This research is in line with the research Hashim et al., (2022) structural capital has a favorable impact on Performance of Malaysian Microfinance Institutions.

Social Capital has a significant effect on the performance of village apparatus by strengthening trust, social norms, and social networks in the community, with good Social Capital, village apparatus can work more optimally, increase transparency, and create public services that are more responsive and oriented to the needs of the community, this result is supported by Haddad et al., (2023), with the study findings indicating a positive effect of social and intellectual capital on the bank's net income.

Relational Capital, which involves the relationship of village officials with communities and stakeholders, strengthens citizen participation and builds trust in village governance. Village officials can work more professionally, improve the quality of public services, and encourage more inclusive and sustainable village development. This research is supported by research Muftiasa et al., (2023) relational capital was hypothesized to have a positive effect on company performance within the telecommunications industry during the new normal era and supported by research Al-Husseini (2023) The results show that relational capital improves employee performance in Iraqi banks.

Cultural Capital has a significant influence on the performance of village apparatus by forming values, norms, and cultural understanding that support the effectiveness of work and public services. The village apparatus' knowledge and understanding of local culture helps in building better communication with the community, creating policies that are per local wisdom, and increasing the participation of residents in village development. This research is in line with the results of the research (Barrett, 2021), with the result using employee engagement and Cultural Entropy as proxy measures for cultural alignment (cultural capital), state that organizations with high levels of cultural alignment will have superior levels of financial

Customer Capital affects the performance of village apparatus by improving the quality of public services and community satisfaction as the main "customer" of village government services. The village apparatus' understanding of the needs, hopes, and aspirations of the community allows them to provide services that are more responsive, efficient, and in accordance with the interests of the residents. This research is in line with the research by Hashim et al., (2022) customer capital and social capital, the research model can explain 59.9 percent of the significant variance in the performance of microfinance institutions (MFIs).

Organizational Capital has a significant effect on the performance of village apparatus because it includes systems, structures, policies, and technology that support work efficiency and effectiveness. An organized administrative system, clear work procedures, and transparent

regulations allow village officials to provide faster and more accurate services to the community. In addition, the use of technology and innovation in village governance can increase efficiency in data management, communication, and decision-making. Strong Organizational Capital also creates a professional and collaborative work culture, so that village officials can carry out their duties more optimally, increase community satisfaction, and strengthen accountability in public services. This research is in line with the research by Utomo et al., (2023) , Organizational Culture has a significant effect on the Performance of Hospitality Companies.

The influence of the intellectual capital dimension on the performance of village apparatus with knowledge as a mediating variable

Intellectual Capital plays a critical role in shaping the performance of village apparatus, with knowledge acting as a key mediating variable that enhances its impact. Intellectual Capital consists of human capital, structural capital, social capital, relational capital, cultural capital, customer capital, organizational capital, and service capital, all of which contribute to improving governance and public service quality. Human Capital, which includes the competence, skills, and experience of village officials, enables them to acquire, process, and apply knowledge effectively in decision-making. Structural Capital, such as administrative systems, policies, and technological infrastructure, facilitates knowledge sharing and management, ensuring that best practices are institutionalized. Meanwhile, Relational Capital, which involves interactions with the community and external stakeholders, fosters knowledge exchange, collaboration, and innovation in service improvement.

When knowledge acts as a mediating variable, it strengthens the relationship between Intellectual Capital and the performance of village apparatus by ensuring that skills, systems, and relationships are effectively utilized. Knowledge enables village officials to make informed decisions, streamline administrative processes, and improve community engagement, leading to enhanced service delivery and increased efficiency. Additionally, knowledge management helps retain institutional memory, allowing village administrations to build on past experiences, reduce redundancies, and improve problem-solving capacity. Thus, optimizing Intellectual Capital while leveraging knowledge as a mediator can significantly enhance the performance of village apparatus, leading to better governance, higher public trust, and sustainable village development. However in the study, it was found that the results knowledge variable does not function as an intervening variable between intellectual capital and performance.

4. Conclusion

The results of the study using Confirmatory Factor Analysis (CFA) show that Intellectual Capital, consisting of Human Capital, Structural Capital, Social Capital, Relational Capital, Cultural Capital, Customer Capital, and Organizational Capital, has a significant influence on the performance of village apparatus in improving services to the community. Each dimension of Intellectual Capital contributes uniquely to strengthening village governance and the effectiveness of public services. Human Capital plays a role in improving the competence, skills, and capacity of village apparatus in providing professional and responsive services. Structural Capital helps in creating more efficient administrative and regulatory systems, as well as utilizing technology to improve transparency and effectiveness of work. Social Capital strengthens community involvement in village development through social norms, trust, and good networks between village officials and residents. Relational Capital strengthens the relationship between village officials and communities and stakeholders, encourages public participation and increases the legitimacy of village government. Cultural Capital plays a role in building values and work norms that support professionalism, discipline, and accountability of village officials. Customer Capital ensures that the services provided by the village

apparatus are in accordance with the needs and expectations of the community, thereby increasing resident satisfaction. Organizational Capital includes a system of governance, policies, and work procedures that enable village officials to work more efficiently and productively. In conclusion, strengthening Intellectual Capital in various dimensions can improve the quality of village services, strengthen governance, and increase community participation in village development. Therefore, the village apparatus development strategy needs to focus on increasing human resource capacity, strengthening administrative and policy systems, and optimizing relationships with the community and stakeholders to realize more professional, transparent, and sustainable services. The results of this study have important implications for village governments, academics, and policymakers in an effort to improve the performance of village apparatus and the quality of public services. (1) The Confirmatory Factor Analysis (CFA) used in this study strengthens the validity and reliability of the model that connects Intellectual Capital with the performance of village apparatus, so that it can be a reference for future research. (2) Local and national governments need to develop policies that encourage the strengthening of Intellectual Capital in villages, including regulations on increasing human resource capacity, implementing e-governance systems, and community-based development programs. (3) Incentives and funding programs are needed for villages that successfully implement strategies to increase Intellectual Capital to encourage better and innovative governance. (4) Cooperation between the government, academia, the private sector, and the community must be strengthened to accelerate the transformation of village governance that is more modern and based on Intellectual Capital.

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