JOURNAL LA EDUSCI

VOL. 07, ISSUE 04 (846-861), 2026
DOI: 10.37899/journallaedusci.v7i4.3288

Modeling and Optimizing Strategies for Strengthening PKBM Sustainability

Suyadi[1], Bibin Rubini[1], Dian Wulandari[1]

[1]*Postgraduate School, Universitas Pakuan, Indonesia*

**Corresponding Author: Suyadi*
E-mail: cikyadi888@gmail.com

Article Info

Article history:
Received 3 May 2026
Received in revised form 22 May 2026
Accepted 6 June 2026

Keywords:
Education and Training
OCB
Organizational Climate
Servant Leadership
Sustainability

Abstract

This study aimed to develop strategies for strengthening the sustainability of Community Learning Centers or PKBM by examining the direct and indirect effects of servant leadership, organizational climate, Organizational Citizenship Behavior, and the effectiveness of education and training. This study employed a quantitative correlational approach involving 165 heads and tutors from 39 PKBM units in East Bogor Regency. Data were collected through a structured questionnaire and analyzed using descriptive statistics, prerequisite tests, path analysis, and SITOREM analysis. The findings showed that servant leadership, organizational climate, Organizational Citizenship Behavior, and the effectiveness of education and training had positive direct effects on PKBM sustainability. Servant leadership and organizational climate also had indirect effects on PKBM sustainability through Organizational Citizenship Behavior and the effectiveness of education and training. The SITOREM analysis identified several indicators requiring priority improvement, including conceptualization, forward looking orientation, satisfaction with activities, meeting community needs, development and empowerment, availability of teaching staff, PKBM development, and work mechanisms. These findings indicate that PKBM sustainability is shaped not only by leadership and organizational conditions, but also by voluntary work behavior and continuous human resource development. The study recommends strengthening servant leadership, improving organizational climate, enhancing tutors' extra role behavior, and designing more relevant education and training programs to support the long term sustainability of PKBM.

Introduction

One of the community's contributions to accelerating the implementation of 12-year Compulsory Education to reduce school dropout rates and eradicate ignorance is by organizing Community Learning Activity Centers, hereinafter referred to as PKBM (Safitri, 2020). Community Learning Activity Centers, better known as PKBM, are non-formal educational institutions born from an awareness of the importance of the community's position in the development process. Therefore, the presence of PKBM represents a proactive attitude of community groups as agents of change (Change of Agent) to open access and address various community learning needs that are appropriate to local situations and conditions. Furthermore, the presence of PKBM in the midst of the community is expected to be an instrument for the development process through empowering existing potentials in the community (Purba et al., 2026; Susilowati et al., 2025; Ashlah et al., 2025).

The implementation of Community Learning Centers (PKBM) in Indonesia is carried out in accordance with Law Number 20 of 2003 concerning the National Education System, which regulates the educational process that takes place in the community environment through non-

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

formal channels. PKBM operations are regulated in the Standards and Procedures for the Implementation of Community Learning Centers (PKBM), the Directorate of Community Education Development issued by the Directorate General of Non-formal and Informal Early Childhood Education, Ministry of Education and Culture, in 2012. It is explained that the Community Learning Center (PKBM) is a community learning initiative established from, by, and for the community. PKBM is a community-based institution (Hartini et al., 2025; Biardini & Setiana, 2026; Mulyono et al., 2025).

Community Learning Centers (PKBM) need to pay attention to factors that can ensure their sustainability. Otherwise, PKBM's contribution could cease (Hardiyanti et al., 2025; Novrita et al., 2025; Raza & Fatima, 2024). Therefore, the sustainability of PKBM requires the attention of all parties. The ideal goal of Community Learning Center Sustainability (PKBM) is to establish a non-formal educational institution that is independent, rooted in the community, and capable of providing lifelong learning in a sustainable manner. The reality on the ground regarding the sustainability of Community Learning Centers (PKBM) is that many PKBM still face serious challenges in surviving and developing independently. Although PKBM plays an important role as a non-formal educational unit that empowers the community, its sustainability is often unstable (Ngoma-Kema et al., 2026; Hayat et al., 2024; Mahu, 2025).

Many factors influence the sustainability of community-based learning (PKBM). Further study, particularly with reference to field issues, is needed to determine what factors can enable a PKBM to survive, be competitive, and thrive as a non-formal educational institution that makes a real contribution to society.

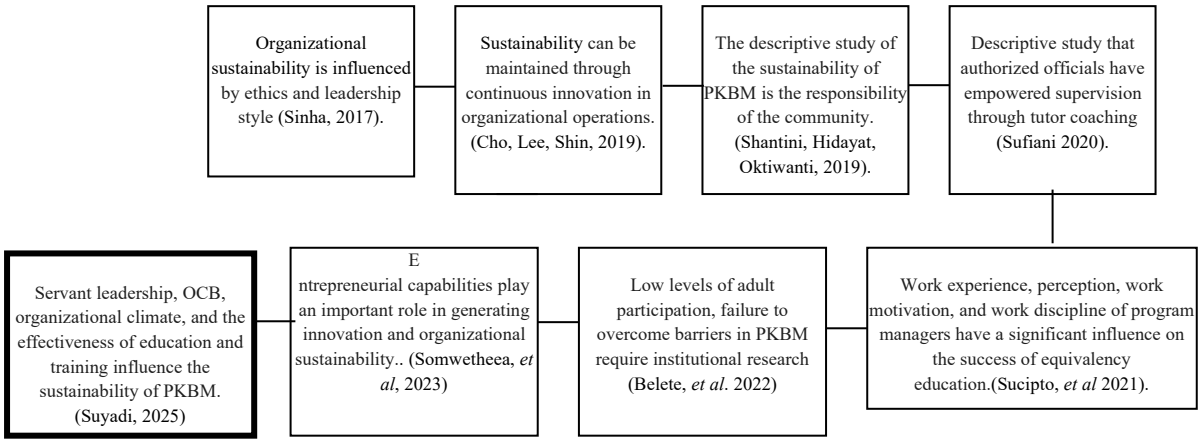

Figure 1: State of the Art

Related to the Sustainability of PKBM, it is known that the factors that can influence Sustainability are ethics and leadership style, innovation, community responsibility, supervision, coaching, entrepreneurial capabilities, institutional research, work experience, perception, motivation, discipline, and management. The difference between this research and previous research lies in the strategy and model to improve the Sustainability of PKBM through servant leadership, OCB, organizational climate, and the effectiveness of education and training based on local wisdom in the eastern Bogor region.

Several factors are suspected to have an influence on the Sustainability of PKBM, namely behavior, willingness, facilities, commitment, discipline, communication, motivation, creativity, and characteristics. To observe and research the Sustainability of PKBM. Based on the explanation above, various analyses have discussed PKBM. Meanwhile, a comprehensive discussion of the determining factors of PKBM sustainability is still limited. In line with this

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

information, research on PKBM sustainability needs to be conducted because it can provide comprehensive information about the importance of PKBM sustainability. In addition, the findings obtained can be used as a basis for research in developing PKBM sustainability. The results can also be utilized by the Government and related stakeholders who want to optimize the role of PKBM. Therefore, this study provides an overview of the determining factors of PKBM sustainability.

This research was conducted on the determining factors of PKBM sustainability that can be pursued through POP SDM where Sustainability PKBM (Community Learning Activity Center) through Optimization Modeling of Human Resource Improvement is a systematic and sustainable institutional management strategy to ensure PKBM remains relevant, competent, and impactful in the long term. This approach focuses on strengthening internal capacity (managers and tutors) to be able to provide quality and competitive non-formal education in the community, this model changes PKBM from merely an equality institution to an edupreneurship-based education center, which is a combination of the words education and entrepreneur, namely developing businesses or businesses in the field of education with the aim of providing innovative solutions, improving the quality of teaching, and expanding access to learning, which focuses on innovation, such as edutech platforms, courses, or teaching aids that are managed professionally and sustainably (Sharma & Arrawatia, 2023; Fu, 2025; Mncube et al., 2026).

Identified factors that have a positive and dominant influence on the Sustainability of PKBM (the level of sustainability of the Community Learning Center KBM), as a dependent variable. There are several local wisdom variables that play an important role as social and cultural capital that influence the sustainability of the Community Learning Center (PKBM) (Lestari et al., 2026; Fauzi et al.. 2026; Wirata et al., 2026). Local wisdom helps PKBM rooted in community needs, increase participation, and maintain the relevance of education, some of the variables in question are mutual cooperation and participation, religious values and traditions, local beliefs (local knowledge, utilization of local ecology, local product-based education, the role of community leaders, local regulations, community-based learning, and preservation of cultural identity. The aim of this research is to produce strategies and methods for increasing the sustainability of PKBM by examining other variables that have a positive and dominant influence on the sustainability of PKBM.

Methods

This study employed a quantitative approach using a correlational research design. The design was chosen because the study aimed to examine the direct and indirect relationships among servant leadership, organizational climate, Organizational Citizenship Behavior, effectiveness of education and training, and PKBM sustainability. The quantitative findings were further analyzed using SITOREM analysis to determine priority indicators that should be improved, maintained, or developed in order to strengthen PKBM sustainability.

The population of this study consisted of heads and tutors from 39 Community Learning Centers or PKBM located in East Bogor Regency across seven sub districts. The sample was determined using the Taro Yamane formula with a five percent margin of error. Based on this calculation, 165 respondents were selected as the research sample. The sampling process used multistage random sampling combined with area cluster proportional random sampling to ensure that respondents were proportionally represented from the PKBM units included in the study.

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

Data were collected through a structured questionnaire developed based on the indicators of each research variable. The variables consisted of PKBM sustainability as the dependent variable, servant leadership and organizational climate as exogenous variables, and Organizational Citizenship Behavior and effectiveness of education and training as intervening variables. Each item in the questionnaire was designed to measure respondents' perceptions of the relevant indicators in accordance with the research model.

The data were analyzed using descriptive and inferential statistical techniques. Descriptive analysis was used to present the distribution of respondents' scores for each variable, including mean, median, mode, standard deviation, variance, minimum score, maximum score, range, and total score. Before conducting path analysis, several prerequisite tests were carried out, namely normality, homogeneity, and linearity tests. These tests were conducted to ensure that the data met the assumptions required for parametric analysis.

Path analysis was then used to examine the direct and indirect effects among the research variables. This analysis enabled the study to identify the strength and direction of the relationships between servant leadership, organizational climate, Organizational Citizenship Behavior, effectiveness of education and training, and PKBM sustainability. After the path analysis was completed, SITOREM analysis was applied to evaluate the indicators of each variable by considering statistical results and expert judgment. The SITOREM analysis was used to classify indicators that require immediate improvement and indicators that should be maintained as part of the strategy for optimizing PKBM sustainability.

Results and Discussion

The results of this study are presented systematically in four main stages to provide a clear and coherent explanation of the empirical findings. The first stage presents the descriptive statistical analysis of each research variable. This stage is intended to describe the general tendency of the data, including the distribution of respondents' answers, the level of achievement of each variable, and the initial condition of the indicators measured in the study. Through descriptive analysis, the characteristics of PKBM Sustainability, Servant Leadership, Organizational Climate, Organizational Citizenship Behavior, and Effectiveness of Education and Training can be understood before proceeding to further statistical testing.

The second stage presents the prerequisite analysis tests, which include normality, homogeneity, and linearity tests. These tests were conducted to ensure that the data met the basic assumptions required for further inferential analysis. The normality test was used to determine whether the data distribution of each variable followed a normal pattern. The homogeneity test was conducted to examine whether the variance among the data groups was relatively equal. Meanwhile, the linearity test was used to determine whether the relationships among the variables were linear and therefore appropriate for path analysis. The fulfillment of these prerequisite tests is important because it supports the validity and reliability of the subsequent statistical interpretation.

The third stage presents the results of path analysis. This analysis was used to examine the direct and indirect effects among the research variables. In this stage, the relationships between Servant Leadership, Organizational Climate, Organizational Citizenship Behavior, Effectiveness of Education and Training, and PKBM Sustainability are analyzed to determine the strength and direction of influence among variables. Path analysis also allows the study to identify whether certain variables function not only as direct predictors but also as mediating variables that explain the mechanism through which PKBM sustainability can be strengthened.

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

The fourth stage presents the SITOREM analysis. This analysis was used to identify priority indicators that require improvement in strengthening PKBM sustainability. Through SITOREM analysis, the study does not only explain the statistical relationships among variables but also provides a practical basis for determining which indicators should be maintained and which indicators should be improved. Therefore, the results of this analysis are expected to contribute to the formulation of more targeted strategies for improving the sustainability of Community Learning Centers.

The research data were obtained from 165 respondents representing Community Learning Centers or PKBM in East Bogor Regency. These respondents were selected because they were considered to have relevant knowledge, experience, and involvement in the management and implementation of PKBM programs. The variables analyzed in this study consisted of PKBM Sustainability as the dependent variable, while Servant Leadership, Organizational Climate, Organizational Citizenship Behavior, and Effectiveness of Education and Training were positioned as independent and intervening variables. The inclusion of these variables was intended to provide a more comprehensive understanding of the organizational and managerial factors that may influence the sustainability of PKBM.

Before presenting the statistical results in detail, the constellation of relationships among the research variables is shown in Figure 2. This constellation provides a conceptual and analytical overview of the relationships tested in the study. It illustrates how each independent and intervening variable is assumed to influence PKBM Sustainability, either directly or indirectly. By presenting this relationship model before the statistical findings, readers can more easily understand the structure of the analysis and the logical flow of the results presented in the subsequent sections.

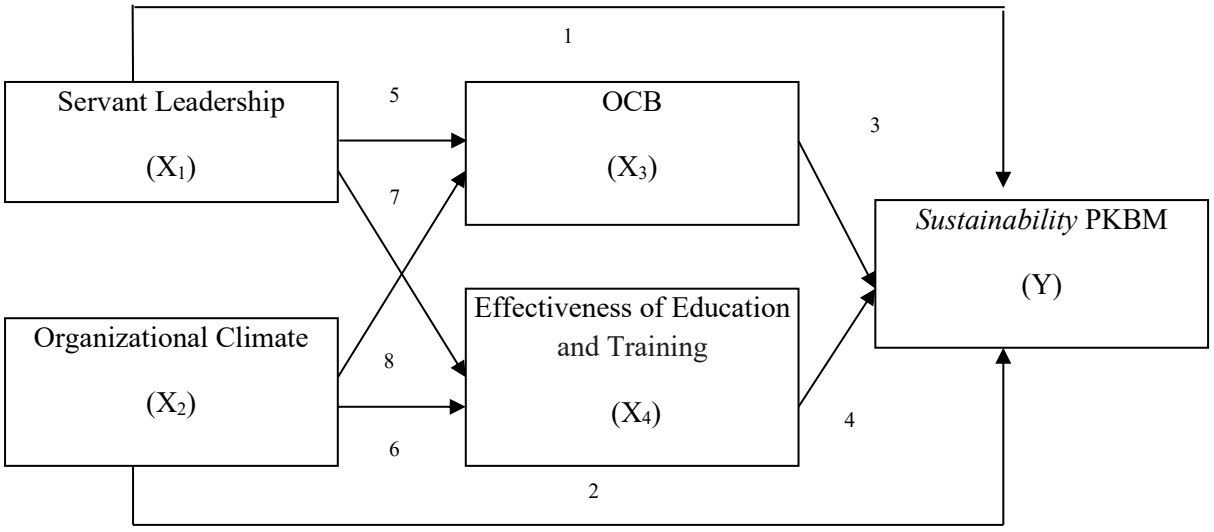

Figure 2. Constellation of Relationships between Variables

Note.

Y = PKBM Sustainability

X1 = Servant Leadership

X2 = Organizational Climate

X3 = Organizational Citizenship Behavior

X4 = Effectiveness of Education and Training

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

The research model in Figure 2 shows that Servant Leadership and Organizational Climate were positioned as exogenous variables. Organizational Citizenship Behavior and Effectiveness of Education and Training were positioned as intervening variables, while PKBM Sustainability was positioned as the main endogenous variable. The model was designed to examine both direct and indirect effects among the variables.

Descriptive Statistical Analysis

The descriptive statistical analysis was conducted to describe the distribution of scores for each research variable. The results are presented in Table 1.

Table 1. Descriptive Statistics of Research Variables

Statistical Measures	Y	X1	X2	X3	X4
Number of Data	165	165	165	165	165
Mean	128.10	134.28	154.58	144.69	141.34
Median	128	132	153	142	139
Mode	123	127	159	142	142
Standard Deviation	7.64	8.04	6.30	10.92	9.040
Variance	58.34	64.56	39.73	119.25	81.727
Range	40	41	31	51	43
Minimum	108	111	137	116	120
Maximum	148	152	168	167	163
Sum	21137	22157	25506	23874	26714

Based on Table 1, Organizational Climate obtained the highest mean score of 154.58, followed by Organizational Citizenship Behavior with a mean score of 144.69, Effectiveness of Education and Training with a mean score of 141.34, Servant Leadership with a mean score of 134.28, and PKBM Sustainability with a mean score of 128.10. These findings indicate that respondents gave relatively high assessments of organizational climate, citizenship behavior, education and training effectiveness, servant leadership, and PKBM sustainability.

The standard deviation values show that the variability of respondents' answers differed across variables. Organizational Citizenship Behavior had the highest standard deviation of 10.92, indicating a wider distribution of responses compared to the other variables. Organizational Climate had the lowest standard deviation of 6.30, indicating that respondents' answers on this variable were relatively more concentrated.

Prerequisite Analysis Tests

Before conducting path analysis, prerequisite tests were carried out to ensure that the data met the assumptions required for parametric analysis. These tests consisted of normality, homogeneity, and linearity tests.

The normality test was conducted on the estimated standard errors of the relationships between the independent variables and PKBM Sustainability. The results are presented in Table 2.

Table 2. Summary of Normality Test

No	Estimated Standard Error	L calculated	L table	Confidence Level	Conclusion
1	X1 to Y	0.054	0.059	95%	Normally distributed
2	X2 to Y	0.057	0.059	95%	Normally distributed

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

3	X3 to Y	0.052	0.059	95%	Normally distributed
4	X4 to Y	0.052	0.064	95%	Normally distributed

The results in Table 2 show that all calculated L values were lower than the corresponding L table values. Therefore, the estimated standard errors for all tested relationships were normally distributed. This means that the data fulfilled the normality assumption and could be continued to the next stage of parametric analysis.

The homogeneity test was then conducted to determine whether the variance of the data was homogeneous. The results are presented in Table 3.

Table 3. Summary of Homogeneity Test

No	Relationship Model Between Variables	χ^2 calculated	χ^2 table	Test Result
1	X1 to Y	44.26	157.61	Homogeneous
2	X2 to Y	25.11	162.02	Homogeneous
3	X3 to Y	49.65	145.46	Homogeneous
4	X4 to Y	15.23	140.60	Homogeneous

As shown in Table 3, the calculated χ^2 values for all relationship models were lower than the χ^2 table values. This indicates that all tested data groups had homogeneous variance. Therefore, the data fulfilled the homogeneity assumption.

The linearity test was conducted to examine whether the relationships among the variables followed a linear pattern. The results are presented in Table 4.

Table 4. Summary of Regression Linearity Test

No	Relationship Model Between Variables	Deviation from Linearity	Reference Value	Test Result
1	Y to X1	0.978	1.55	Linear
2	Y to X2	0.747	1.55	Linear
3	Y to X3	0.620	1.55	Linear
4	Y to X4	0.974	1.55	Linear
5	X1 to X3	1.025	1.55	Linear
6	X2 to X3	0.661	1.450	Linear
7	X1 to X4	0.926	1.520	Linear
8	X2 to X4	0.210	1.55	Linear

The results in Table 4 indicate that all relationships among the tested variables were linear. This means that the data fulfilled the linearity assumption and were appropriate for path analysis.

Path Analysis Results

After the prerequisite tests were fulfilled, path analysis was conducted to test the proposed causal relationships among the research variables. The results of hypothesis testing are presented in Table 5.

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

Table 5. Summary of Hypothesis Testing Results

No	Hypothesis	Path Coefficient	Decision	Conclusion
1	X1 to Y	0.273	H0 rejected and H1 accepted	Positive direct effect
2	X2 to Y	0.209	H0 rejected and H1 accepted	Positive direct effect
3	X3 to Y	0.320	H0 rejected and H1 accepted	Positive direct effect
4	X4 to Y	0.221	H0 rejected and H1 accepted	Positive direct effect
5	X1 to X3	0.293	H0 rejected and H1 accepted	Positive direct effect
6	X2 to X3	0.094	H0 rejected and H1 accepted	Positive direct effect
7	X1 to X4	0.285	H0 rejected and H1 accepted	Positive direct effect
8	X2 to X4	0.061	H0 rejected and H1 accepted	Positive direct effect
9	X1 to X3 to Y	0.353	H0 rejected and H1 accepted	Positive indirect effect
10	X2 to X3 to Y	0.097	H0 rejected and H1 accepted	Positive indirect effect
11	X1 to X4 to Y	0.285	H0 rejected and H1 accepted	Positive indirect effect
12	X2 to X4 to Y	0.061	H0 rejected and H1 accepted	Positive indirect effect

The results in Table 5 show that all proposed hypotheses were accepted. Servant Leadership had a positive direct effect on PKBM Sustainability, with a path coefficient of 0.273. Organizational Climate also had a positive direct effect on PKBM Sustainability, with a path coefficient of 0.209. Organizational Citizenship Behavior had the strongest direct effect on PKBM Sustainability, with a path coefficient of 0.320. Meanwhile, Effectiveness of Education and Training had a positive direct effect on PKBM Sustainability, with a path coefficient of 0.221.

The results also show that Servant Leadership had a positive direct effect on Organizational Citizenship Behavior, with a path coefficient of 0.293. Organizational Climate had a positive direct effect on Organizational Citizenship Behavior, with a path coefficient of 0.094. In addition, Servant Leadership had a positive direct effect on the Effectiveness of Education and Training, with a path coefficient of 0.285, while Organizational Climate had a positive direct effect on the Effectiveness of Education and Training, with a path coefficient of 0.061.

The indirect effect results show that Servant Leadership had a positive indirect effect on PKBM Sustainability through Organizational Citizenship Behavior, with a coefficient of 0.353. Organizational Climate also had a positive indirect effect on PKBM Sustainability through Organizational Citizenship Behavior, with a coefficient of 0.097. Furthermore, Servant Leadership had a positive indirect effect on PKBM Sustainability through the Effectiveness of Education and Training, with a coefficient of 0.285. Organizational Climate also had a positive

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

indirect effect on PKBM Sustainability through the Effectiveness of Education and Training, with a coefficient of 0.061.

Based on these results, PKBM Sustainability was influenced not only by direct effects from Servant Leadership, Organizational Climate, Organizational Citizenship Behavior, and Effectiveness of Education and Training, but also by indirect effects through Organizational Citizenship Behavior and Effectiveness of Education and Training. The strongest direct effect was shown by Organizational Citizenship Behavior, indicating that voluntary, cooperative, and supportive behavior within PKBM plays an important role in strengthening institutional sustainability.

SITOREM Analysis Results

SITOREM analysis was conducted to identify priority indicators that need to be improved in order to strengthen PKBM sustainability. The results are presented in Table 6.

Table 6. SITOREM Analysis Results

No	Indicator	Expert Weighting	Indicator Value
1	Conceptualization	12%	3.27
2	Forward Looking	13%	3.55
3	Satisfaction with Activities	20%	3.56
4	Meeting Community Needs	12%	3.61
5	Development and Empowerment	13%	3.67
6	Participation and Support	20%	3.74
7	Availability of Teaching Staff	15%	3.77
8	Preventing Problems	18%	3.77
9	Development of PKBM	14%	3.98
10	Working Mechanisms	21%	3.98

The SITOREM analysis results show that the indicator values ranged from 3.27 to 3.98. Based on the criteria used in this study, indicators with scores between 0.00 and 4.00 are categorized as indicators that require improvement. The lowest indicator value was Conceptualization, with a score of 3.27, followed by Forward Looking with a score of 3.55, Satisfaction with Activities with a score of 3.56, Meeting Community Needs with a score of 3.61, and Development and Empowerment with a score of 3.67. These indicators should become priority areas for improvement in strengthening PKBM sustainability.

The expert weighting results show that Working Mechanisms had the highest weight at 21%, followed by Satisfaction with Activities and Participation and Support, each with 20%. Preventing Problems had a weight of 18%, Availability of Teaching Staff had a weight of 15%, Development of PKBM had a weight of 14%, Forward Looking and Development and Empowerment each had a weight of 13%, while Conceptualization and Meeting Community Needs each had a weight of 12%.

These findings indicate that the improvement of PKBM sustainability should be directed toward strengthening institutional work mechanisms, improving satisfaction with education and training activities, increasing participation and support, preventing institutional problems, improving the availability of teaching staff, strengthening PKBM development, and enhancing leadership capacity in conceptualization, future orientation, and empowerment. Therefore, the results of path analysis and SITOREM analysis complement each other. Path analysis identifies the variables that influence PKBM sustainability, while SITOREM analysis identifies the specific indicators that need to be improved to optimize PKBM sustainability.

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

The findings of this study confirm that the sustainability of Community Learning Centers is not merely a matter of program continuity, but a broader institutional condition shaped by leadership capacity, organizational environment, voluntary work behavior, and the effectiveness of human resource development. In the context of PKBM, sustainability must be understood as the ability of the institution to remain socially relevant, organizationally adaptive, and operationally capable of responding to community learning needs. This interpretation is consistent with Meilya et al. (2021), who emphasized that the quality and independence of Community Learning Centers depend on community participation, program relevance, service usefulness, institutional autonomy, and sustainability. The present study strengthens this view by showing that PKBM sustainability requires not only external community support, but also strong internal organizational mechanisms that allow leaders, tutors, and institutional members to work beyond routine administrative functions.

The strong role of Organizational Citizenship Behavior in this study indicates that PKBM sustainability is deeply dependent on the willingness of organizational members to contribute beyond formal job descriptions. In nonformal education institutions, where resources are often limited and work structures are less rigid than in formal schools, extra role behavior becomes an important institutional asset. Fauziah et al. (2025) found that OCB positively supports teacher performance because teachers who display extra role behavior contribute more effectively to institutional goals. This is highly relevant to PKBM because tutors and managers are often required to handle multiple roles, including teaching, mentoring, community engagement, administration, and program development. The finding also aligns with Hermanto and Srimulyani (2022), who showed that extra role behavior and teacher performance can be improved through servant leadership and work engagement. Therefore, OCB in PKBM should not be treated as a secondary behavioral variable, but as a central mechanism through which institutional resilience is maintained.

The positive influence of servant leadership on PKBM sustainability suggests that leadership in nonformal education needs to move beyond command based management. PKBM leaders are expected to serve, empower, listen, conceptualize institutional direction, and create a supportive environment for tutors and learners. This finding is supported by Hidayat et al. (2022), who found that improving teacher OCB can be more effective when servant leadership, self efficacy, and organizational justice are strengthened. Subekti (2025) also explained that servant leadership in educational settings contributes to school quality, teacher performance, organizational culture, and a more inclusive learning environment. In the PKBM context, servant leadership becomes particularly important because institutional sustainability depends on trust, community responsiveness, and the ability of leaders to mobilize tutors and stakeholders around shared educational purposes.

The findings also show that organizational climate contributes to PKBM sustainability both directly and indirectly. This means that a supportive organizational environment can strengthen institutional continuity by shaping how members communicate, collaborate, solve problems, and participate in shared responsibilities. Adriana et al. (2023) demonstrated that organizational climate significantly influences teacher performance, especially when it is reflected through leadership quality, communication, responsibility, and institutional support. Noorhapizah et al. (2023) similarly showed that work climate affects teacher performance through motivation, indicating that organizational climate does not only influence behavior directly, but also works through internal motivational processes. In relation to this study, organizational climate should be understood as the social infrastructure of PKBM sustainability because it determines whether tutors feel supported, respected, and motivated to sustain the institution’s mission.

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

The indirect influence of servant leadership and organizational climate through OCB is theoretically important because it shows that leadership and climate do not automatically sustain PKBM unless they are translated into voluntary and constructive organizational behavior. Sun et al. (2024) found that school organizational climate positively predicts teachers' OCB, while Suherlan et al. (2025) highlighted the role of local wisdom, organizational climate, and motivated mediation in enhancing teachers' OCB in Indonesia. These studies support the argument that OCB emerges when the organization creates psychological and cultural conditions that encourage members to help, tolerate, participate, and contribute beyond formal duties. For PKBM, this means that sustainability is not only built through policy, structure, or funding, but also through everyday relational practices among tutors, leaders, and community members.

The positive effect of education and training effectiveness on PKBM sustainability confirms that institutional survival requires continuous capacity development. Training becomes meaningful when it improves tutors' ability to manage learning, understand community needs, adapt programs, and support learners from diverse social backgrounds. Alonzo et al. (2024) argued that effective professional development requires not only content delivery, but also opportunities for implementation, monitoring, evaluation, support, resources, and teacher autonomy. Liu et al. (2025) further showed through meta analysis that professional development can improve teacher self efficacy, especially when programs are structured to support real instructional improvement. These insights are relevant to the present study because PKBM sustainability depends on whether education and training activities can produce practical competence, not merely formal participation certificates (Villalba-García et al., 2026; Zdunek et al., 2024; Siregar, 2025; Ayumi & Nasution, 2025).

The SITOREM findings deepen the interpretation of the statistical results by identifying the specific indicators that require improvement. The low scores on conceptualization, forward looking orientation, satisfaction with activities, meeting community needs, and development and empowerment suggest that PKBM sustainability is challenged by strategic and developmental weaknesses rather than merely technical operational problems. Tohani (2022) argued that PKBM managers need transformative learning to strengthen innovation capacity because rapid social change requires adaptive institutional thinking. Tohani et al. (2023) also emphasized that Community Learning Centers provide continuous learning opportunities for self development, work skills, social roles, and community empowerment. These studies help explain why conceptualization and future orientation are crucial indicators in this study. Without strategic thinking and innovation capacity, PKBM may continue operating administratively, but fail to develop as a responsive and empowering community based learning institution (Afriani & Haryanto, 2026; Abduh et al., 2025; Anwar& Shawmi, 2023).

The emphasis on meeting community needs is also consistent with recent studies on nonformal education. Chotim (2021) found that Community Learning Activity Centers can help address social problems such as poverty through practical and valuable nonformal education programs, although community empowerment activities still require optimization. Aini (2025) similarly showed that the sustainability of nonformal education for Indonesian migrant children depends on institutional support, teacher roles, parental participation, and learner enthusiasm. Khamidah (2025) further emphasized that nonformal education functions as a strategic tool for social inclusion, although policy commitments must be translated into transformative practice. These studies confirm that PKBM sustainability is inseparable from social relevance. PKBM can survive meaningfully only when its programs remain connected to real community needs and when institutional actors are able to transform community problems into relevant learning services.

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

The findings also have practical implications for PKBM management. Manaf (2025) showed that management strategy is an important concern in PKBM governance, while recent governance oriented studies on Community Learning Centers in Indonesia highlight persistent challenges in leadership, collaboration, accountability, policy alignment, and digital dimensions. In line with these studies, the present findings suggest that improving PKBM sustainability requires an integrated strategy that connects leadership strengthening, organizational climate improvement, OCB development, and effective training design. The most urgent improvements should focus on strengthening leaders' conceptual capacity, building future oriented planning, increasing satisfaction with training activities, aligning programs with community needs, and empowering tutors and institutional members (Matsepe & Zwnae, 2026; Karmaker, 2026; Gould & Palomares, 2026).

This study contributes to the literature by showing that PKBM sustainability is not produced by a single dominant factor, but by the interaction between leadership, climate, voluntary behavior, and human resource development. The results extend previous research by positioning OCB and training effectiveness as important pathways through which servant leadership and organizational climate support sustainability. The study also provides a more operational contribution through SITOREM analysis by identifying the indicators that should be improved first. Therefore, strengthening PKBM sustainability should not only focus on maintaining programs, but also on building a servant oriented leadership culture, a supportive organizational climate, strong extra role behavior, and training systems that directly respond to institutional and community needs.

Conclusion

The conclusion of this study is that strategies to improve the sustainability of Community Learning Centers (PKBM) can be implemented through strengthening servant leadership, Organizational Citizenship Behavior (OCB), and Organizational Climate. The strategy to improve the sustainability of PKBM, particularly in terms of meeting community needs, teaching staff availability, and PKBM development, can be implemented by improving servant leadership, which includes indicators of conceptualization, foresight, and development and empowerment. Improving the organizational climate in terms of work mechanisms. Improving OCB focuses on improving indicators of tolerance and politeness, while improving the effectiveness of education and training focuses on indicators of satisfaction with activities. The optimal solution for improving PKBM sustainability is to improve indicators that still need improvement and maintain indicators that are already good. The implications of this research cover two main dimensions: theoretical implications and practical implications. Theoretical implications relate to the contribution of research results to the development of educational theories, particularly those related to servant leadership, organizational climate, Organizational Citizenship Behavior (OCB), the effectiveness of education and training, and the sustainability of PKBM. Meanwhile, practical implications relate to the research's contribution to efforts to improve the operational and contextual sustainability of PKBM. The results indicate that servant leadership, organizational climate, Organizational Citizenship Behavior (OCB), and the effectiveness of education and training significantly influence PKBM sustainability. Thus, these findings strengthen the position of these four variables as important determinants of PKBM sustainability.

Acknowledgment

The authors sincerely thank the Head and Tutors in East Bogor Regency who participated in this research and provided valuable data. Appreciation is also extended to colleagues and fellow academics for their constructive input that improved the quality of this research. The

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

authors gratefully acknowledge the support of the local education authorities for granting research permits, as well as the encouragement and moral support of their families and all individuals who indirectly contributed to the completion of this research. Any remaining limitations are entirely the responsibility of the authors.

References

Abduh, M., Yahyadin, M., Ahdar, M., Suriansyah, A., & Purwanti, R. (2025). Strategy Management in Improving the Quality of Learning for Residents Learning Pkbm Al Ghoutsillah Batu Tunau Village. *Journal of English Language and Education*, *10*(6), 130-138. https://doi.org/10.31004/jele.v10i6.1114

Adriana, M., Nasution, I., & Siregar, A. (2023). Effect of organizational climate and achievement motivation on teacher performance. *Nidhomul Haq Jurnal Manajemen Pendidikan Islam, 8*(2).

Afriani, Z., & Haryanto, F. T. (2026). E-Certificate Policy in Equivalency Education: Opportunities, Challenges, and Its Impact on the Recognition of Non-Formal Graduates in Indonesia. *Journal Governance Bureaucratic Review*, *3*(1), 63-76. https://doi.org/10.31629/jgbr.v3i1.8117

Aini, F. (2025). Sustainability of non-formal education for Indonesian migrant children. *Academia Open*.

Alonzo, D., Teng, M. F., & others. (2024). Key elements of effective mandatory professional development programs. *International Journal of Instruction, 17*(3).

Anwar, S., & Shawmi, A. N. (2023). Community-based education model to empower communities in utilizing local potential (analysis study on community-based learning centers in Lampung Province). *Al-Tadzkiyyah: Jurnal Pendidikan Islam*, *14*(2), 313-337. https://doi.org/10.24042/00202314362300

Ashlah, M. B., Sobhita, R. A., & Nugraha, A. T. (2025). Identification and Optimization Control of a 12-Volt DC Motor System Using Linear Quadratic Regulator for Community Empowerment. *Maritime in Community Service and Empowerment*, *3*(1). https://doi.org/10.35991/micse.v3i1.332

Ayumi, M., & Nasution, I. (2025). Leadership of school principals in improving the quality of teacher learning. *Urwatul Wutsqo: Jurnal Studi Kependidikan Dan Keislaman*, *14*(2), 464-478. https://doi.org/10.54437/urwatulwutsqo.v14i2.2201

Biardini, B., & Setiana, D. S. (2026). A CIPP Model Evaluation of Philanthropy-Based Non-Formal Education: Evidence from a Community Learning Center in Indonesia. *Journal of Innovation and Research in Primary Education*, *5*(1), 1936-1947. https://doi.org/10.56916/jirpe.v5i1.2866

Chotim, E. R. (2021). The role of Community Learning Activity Centers in overcoming social problems. *AL-ISHLAH Jurnal Pendidikan*.

Fauzi, M. A., Rusli, R. A., & Junaidi, H. (2026). The Science of Sustainability Approach in Halal Tourism Development Based on the Useful Power of the Malay Community in Palembang. *Jurnal Penelitian Pendidikan IPA*, *12*(3), 544-552. https://doi.org/10.29303/jppipa.v12i3.14807

Fauziah, S., Hali, A. U., & Jaya, A. R. (2025). The influence of Organizational Citizenship Behavior on the performance of teachers in elementary school. *Munaddhomah Jurnal*

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

Manajemen Pendidikan Islam, 6(1), 29–38. https://doi.org/10.31538/munaddhomah.v6i1.1545

Fu, L. (2025, June). The Role of EdTech in Transforming Business, Economics, and Enterprise (BEE) Education in Secondary Education. In *2025 3rd International Conference on Language, Innovative Education and Cultural Communication (CLEC 2025)* (pp. 145-153). Atlantis Press. https://doi.org/10.3390/su18062877

Gould, D. L., & Palomares, T. (2026). How Teachers Co-Construct Leadership in High-Need Schools: A Grounded Theory Study. *Journal of Research on Leadership Education*, 19427751261428426. https://doi.org/10.1177/19427751261428426

Hardiyanti, N., Shofwan, I., & Gupta, S. (2025). Evaluation of Equality Education Program: Promoting Access and Quality of Learning in Community Learning Center. *Edukasi*, *19*(2), 82-93. https://doi.org/10.15294/edukasi.v19i2.31867

Hartini, Y., Suriansyah, A., & Bachri, A. A. (2025, March). Empowerment of Potential and Improvement of Self-Quality in The Community Learning Activity Center (PKBM) Program "Barakat" Tungkaran Village, South Kalimantan. In *2nd International Conference on Environmental Learning Educational Technologies (ICELET 2024)* (pp. 245-253). Atlantis Press.

Hayat, A., Qamar, K., & Wulandari, T. C. (2024). Implementation of Non-Formal Education Based on Rural Communities. *Journal of Nonformal Education*, *10*(2), 425-434. https://doi.org/10.15294/jone.v10i2.11434

Hermanto, Y. B., & Srimulyani, V. A. (2022). The role of servant leadership and work engagement in improving extra-role behaviour and teacher performance. *International Journal of Productivity and Quality Management, 35*(1), 57–77.

Hidayat, R., Patras, Y. E., & others. (2022). Improving teacher Organizational Citizenship Behavior through servant leadership, justice and self-efficacy. *Pedagonal Jurnal Ilmiah Pendidikan, 6*(2). https://doi.org/10.55215/pedagonal.v6i2.5612

Karmaker, R. (2026). Empowering Academic Communities through AI Literacy: A Community Service Initiative on ChatGPT Integration in Bangladesh's Higher Education. *ASEAN Journal of Community Service and Education*, *5*(1), 61-72.

Khamidah, A. (2025). Nonformal education strategy for social inclusion. *Jurnal Penelitian Kebijakan Pendidikan*.

Lestari, L. P. S., Septiari, N. K., Kristiantari, M. R., & Listyana, I. G. A. A. P. (2026). The Effect of Character-Based Learning Media Integrated with Local Wisdom in Enhancing Elementary Students' Literacy Skills and Character Development. *Journal of Innovation in Educational and Cultural Research*, *7*(1), 96-103. https://doi.org/10.46843/jiecr.v7i1.2426

Liu, J., & others. (2025). The effectiveness of professional development in the self efficacy of K-12 in service STEM teachers. *Journal article indexed in PubMed Central*.

Mahu, S. (2025). The Role of Non-Formal Education Management in Community Empowerment and Lifelong Learning Development. *International Journal of Education, Information Technology, and Others*, *8*(3. B), 514-518.

Manaf, A. (2025). Strategi manajemen pendidikan dalam pengelolaan Pusat Kegiatan Belajar Masyarakat Baiturrahman Depok. *SAP Susunan Artikel Pendidikan*.

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

Matsepe, D., & Zwane, T. T. (2026). From resistance to transformative agency, advocacy, and reimagined leadership: Teacher union Leadership as a catalyst for sustainable educational development. *International Journal of Studies in Inclusive Education*, *1*(si1), 42-49.

Meilya, I. R., Purnomo, P., & others. (2021). Quality improvement and self-reliance strategies Community Learning Center. *JPPM Jurnal Pendidikan dan Pemberdayaan Masyarakat*.

Mncube, N. N., & Minty, R. (2026). From Pilot Projects to Sustainable Integration: Exploring Teacher Experiences in EdTech Implementation in South African Township Schools. *International Journal of Learning, Teaching and Educational Research*, *25*(1), 804-823.

Mulyono, D., Sintiawati, N., & Widiastuti, N. (2025). Community Participation in Community Education: A Study at PKBM Geger Sunten, West Bandung Regency. *Journal Of Educational Experts (JEE)*, *8*(2), 93-102. https://doi.org/10.30740/jee.v8i2.325

Ngoma-Kema, E., Ngoma, F., Ngoma, H. L., & Ngoma, Y. (2026). Empowering Communities: The Role of Non–Governmental Organisations in Promoting Community Development Through Nonformal Education. *International Journal of Research and Scientific Innovation (IJRSI)*, *13*(1). https://doi.org/10.51244/IJRSI.2026.13010179

Noorhapizah, N., Suriansyah, A., & Abidin, M. (2023). Influence of principal management, work climate on teacher performance through teacher work motivation. *International Journal of Curriculum Development, Teaching and Learning Innovation, 1*(2), 60–69. https://doi.org/10.35335/curriculum.v1i2.68

Novrita, J., Oktavia, R., & Sari, T. Y. (2025). Making 'Taman Baca'Sustainable", lessons learned from community-based non-formal education in Aceh, Indonesia. *International Journal of Educational Development*, *113*, 103186. https://doi.org/10.1016/j.ijedudev.2024.103186

of Public Policy in Rural Indonesia. *International Research Journal of Multidisciplinary Scope (IRJMS)*, *7*(2), 1157-1169.

Purba, J. H. V., Khim, S., & Nurisnaini, N. (2026). The Role of Community Service in Promoting Social Inclusion and Reducing Socio-Economic Inequality. *Jurnal Terobosan Peduli Masyarakat (TIRAKAT)*, *3*(1), 457-469. https://doi.org/10.61100/j.tirakat.v3i1.318

Raza, A., & Fatima, G. (2024). Community Learning Centers in Different Economies: A Document Review. *Sustainable Business and Society in Emerging Economies*, *6*(4), 557-568.

Safitri, A. (2020). "Peranan Pusat Kegiatan Belajar Masyarakat (PKBM) Untuk Menanamkan Nilai-Nilai Karakter Dalam Masyarakat Di Desa Bonde Kec. Campalagian Kab. Polewali Mandar." *Eprints Repository Software* 1(69):5–24.

Sharma, A. B., & Arrawatia, M. A. (2025). EVALUATING THE ROLE OF EDTECH IN EDTECH IN ENHANCING INSTITUTIONAL EFFICIENCY AND COST-EFFECTIVENESS. *BIMS International Research Journal of Management and Commerce*, *10*(1), 07-13.

Siregar, R. S. (2025). Improving the Arabic Writing Skills of Students through the Application of Contextual Learning Methods at Dayah Irsyadul Abidin Qurani. *Indonesian*

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

Journal of Education and Social Humanities, *2*(1), 358-369. https://doi.org/10.62945/ijesh.v2i1.726

Subekti, I. (2025). Servant leadership model in educational design. *Journal of Innovation and Research in Primary Education*.

Suherlan, A., Irdiyansyah, I., & Setyaningsih, S. (2025). Enhancing teachers' Organizational Citizenship Behavior in Indonesia through local wisdom, organizational climate, and motivated mediation. *Jurnal Konseling dan Pendidikan*.

Sun, W., & others. (2024). The relationship between school organizational climate and teachers' Organizational Citizenship Behaviors. *Behavioral Sciences, 14*(12), 1130.

Susilowati, A. P. E., Rachmawati, R., & Rijanta, R. (2025). Smart village concept in Indonesia: ICT as determining factor. *Heliyon*, *11*(1). https://doi.org/10.1016/j.heliyon.2025.e41657

Tohani, E. (2022). Pengembangan kapasitas inovasi pengelola Pusat Kegiatan Belajar Masyarakat melalui pembelajaran transformatif. *Aksara Jurnal Ilmu Pendidikan Nonformal*.

Tohani, E., & others. (2023). The performance of internal quality assurance in Community Learning Centers. *Journal of Intercultural Communication*.

Villalba-García, E., Murphy, I., & Souto-Otero, M. (2026). The legal basis for the validation of non-formal and informal learning as a route to qualifications and labour market certificates. In *Employment, Training and Lifelong Learning* (pp. 35-56). Routledge.

Wirata, G., Astawa, I. W., Sulandari, S., Sulaiman, A., & Franklin, N. (2026). Between Tradition and Bureaucracy: The Role of Cultural Values in Shaping the Effectiveness

Zdunek, K., Dobrowolska, B., Dziurka, M., Galazzi, A., Chiappinotto, S., Palese, A., & Wells, J. (2024). Challenges and opportunities of micro-credentials as a new form of certification in health science education—a discussion paper. *BMC Medical Education*, *24*(1), 1169. https://doi.org/10.1186/s12909-024-06174-8

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)