International Journal of Economy, Education, and Entrepreneurship
p-ISSN: 2798-0138 | e-ISSN: 2798-012X
Vol. 6, No. 1, April 2026
https://doi.org/10.53067/ije3.v6i1

OPTIMAL SOLUTIONS FOR IMPROVING ORGANISATIONAL CITIZENSHIP BEHAVIOR (OCB)

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Abstract
The purpose of this study is to determine the optimal solution from among several existing solutions given limited management resources. The method used to determine the optimal solution is SITOREM (Scientific Identification Theory for Conducting Operations Research in Education Management) analysis. The results of the analysis of each indicator in this research variable are as follows: The group of indicators that need improvement consists of 18 (eighteen) main indicators that show significant contribution but are in low actual conditions. The main priorities for indicator improvement include: 1) cooperation, 2) Honesty, 3) Service, 4) Pioneering, 5) Appreciation of Others, 6) Emotional Stability, 7) Conscientiousness, 8) Openness to Experience, 9) Extraversion, 10) Empathy, 11) Sportsmanship, 12) Sympathy, 13) Reflection, 14) Altruism, 15) Sportsmanship, 16) Civic Virtue, 17) Courtesy, and 18) Self-Development, which are also included in the group of indicators that need improvement. Meanwhile, 11 indicators in the group of indicators are maintained and developed, namely: 1) Morality, 2) Religion, 3) Friendliness, 4) Trust, 5) Integrity, 6) Empowerment, 7) Vision, 8) Modelling, 9) Agreeableness, and 10) Tolerance.
Keywords: Optimal Solution, Resource Management, SITOREM, POP-SDM.

INTRODUCTION

Based on data comparing the number of public and private elementary schools and students in the city of Tangerang, the 2024 PPDB saw an increase in students enrolled in private schools, with 22.4 million students enrolled in private elementary schools, while only 3.19 million are enrolled in public schools. Parents who intend to enrol their children in private elementary schools can choose between two types: SDIT and Madrasah Ibtidaiyah (MI). Based on the Tangerang City Government's decision, the Tangerang City Education Office has allocated a quota of 45% in the Adiyatna Public Junior High School PPDB (Adiyatna, 2024). This quota is the largest compared to other PPDB channels. Why parents enrol their children in private schools: they can use the achievement channel through memorising verses from the Quran, which can be included in the academic achievement category.

The percentage of academic zoning quotas in the 2024 Tangerang City PPDB data ranked first at 45% in 2019. Madrasah Ibtidaiyah (MI), as one of the early educational institutions in the Islamic-based education system, also made an important contribution to the realisation of Tangerang City's vision and mission. The MI database in Tangerang City shows 1 public MI and 111 private MIs. The number of private MI schools, which exceeds 100, indicates that the Tangerang City government supports Islamic-based education to cultivate a generation with good character, in line with Tangerang City's vision and mission.

Various literature studies on OCB in Madrasah Ibtidaiyah (MI) continue to be conducted to this day, indicating that OCB remains a subject of considerable interest in the field of education. Research on OCB among teachers at Nurul Falah MI indicates that, in school education, OCB behaviour is

influenced by several factors, namely social relations, self-awareness, initiative, and professionalism (Fahriza, 2023). These behaviours benefit the larger organisation by supporting and defending the company, improving its operations, and demonstrating especially loyal behaviour towards it (Herfina & Wulandari, 2019). The importance of OCB lies in its impact and contribution to the organisation (Risnawati et al., 2025). The novelty of this study lies in the unit of analysis: OCB among private Madrasah Ibtidaiyah (MI) teachers in Tangerang City. In addition, the study of the Culture Value variable with the variables proposed in this study is expected to provide new input for future research. Another opportunity for research innovation is the use of POP-SDM analysis and SITOREM analysis.

Based on the above explanation, OCB among MI teachers is an important factor in improving the quality of education and aligns with the vision and mission of Tangerang City, namely Akhlakul Karimah. Factors that influence OCB need to be identified and analysed to enable improvements and enhancements. Thus, indicators for each variable will be identified for improvement, thereby enhancing OCB. The researcher suspects that the following variables may influence OCB: Personality, Spiritual Intelligence, Servant Leadership, Cultural Values, and Interpersonal Communication.

METHOD

The concept of optimisation in research using the POP-SDM approach employs the SITOREM (Scientific Identification Theory to Conduct Operation Research in Education Management) optimisation theory (Hakim et al., 2020; Hanum & Hermawan, 2025; Setyaningsih, 2020; Sunaryo et al., 2020; Sutisna et al., 2025). In general, SITOREM can be defined as a scientific method used to identify variables (theories) for conducting “Operations Research” in the field of Education Management (Hardienata & M.Sidik Sisdiyanto, 2023). The purpose and usefulness of SITOREM is to optimise research variable indicators through improvement, maintenance, or development. In the context of correlational research and path analysis, SITOREM is used as a method to: 1) identify the strength of the relationship/influence between independent variables and dependent variables. 2) Analyse the research results for each research variable indicator. 3) Analysing the weight of each indicator of each research variable based on the following criteria: 1) cost, 2) benefit, 3) urgency, and 4) importance.

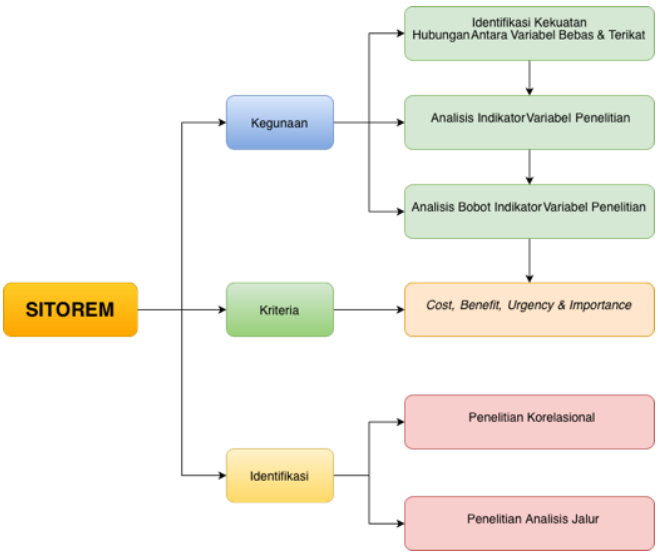


Figure 1 SITOREM Analysis Workflow

SITOREM (Scientific Identification Theory to Conduct Operation Research Education Management) analysis is a scientific theory used operationally in research in the field of education management with statistical models and indicator analysis of research variables that are useful as optimal solutions to indicators that must be immediately corrected, as well as indicators that need to be improved or maintained (Hardhienata, 2023).

RESULTS AND DISCUSSION

1. Contribution Analysis

At this stage, an analysis of the contribution of independent variables to the dependent variable is performed using the coefficient of determination calculation formula. The coefficient of determination is calculated from the square of the correlation coefficient (the correlation coefficient squared). Based on the research design in this study, the contribution analysis can be designed as shown in Table 1 below.

Table 1 Analysis of Contribution (Coefficient of Determination)

No	Interrelationships between Research Variables	Path Coefficient	Coefficient of Determination	Contribution (%)
1	Personality on OCB	0.048	$(ry1)^2 = 0.0023$	0.23%
2	Servant Leadership on OCB	0.027	$(ry2)^2 = 0.0072$	0.07%
3	Culture Value on OCB	0.010	$(ry3)^2 = 0.0001$	0.01%
4	Interpersonal Communication on OCB	0.214	$(ry4)^2 = 0.0457$	4.6%

2. Indicator Analysis

Based on the results of the analysis of research indicators for the scores on the OCB (Y) variable, the indicators were: Altruism with an average of 3.15; Sportsmanship with an average of 3.14; Civic Virtue with an average of 2.89; Courtesy with an average of 3.37; and Self-Development with an average of 2.95. The average scores for the Personality (X1) variable indicators were: Consciousness (3.69), Extraversion (3.29), Agreeableness (4.03), Emotional

Stability (3.59), and Openness to Experience (3.73). The average scores for the Servant Leadership (X2) variables were 4.52 for vision, 3.02 for honesty, and 4.02 for integrity. Trust with a mean of 4.10; Service with a mean of 3.77; Modelling with a mean of 4.16; Pioneering with a mean of 3.08; Appreciation of others with a mean of 3.68, and Empowerment with a mean of 4.10. The average score for the Culture Value variable (X3) was 4.40 for Morality, 4.70 for Religion, 3.25 for Mutual Cooperation, and 4.60 for Friendliness. The last variable is Interpersonal Communication (X4), with average scores of 3.70 for Sportsmanship, 3.69 for Empathy, 4.11 for Tolerance, 2.87 for Reflective, and 3.95 for Sympathy. The ranking of the indicators was determined based on expert judgment. The expert judgment for the indicator assessment used a 1-5 rating scale, where the scale was used to measure the degree of role or influence on each indicator based on four evaluation aspects: 1) cost, 2) benefit, 3) urgency, and 4) importance.

Table 2 Results of Sitorem Analysis

Personality (ry1=-0.337), Rank 3		
Initial Indicator	Indicator After Expert Assessment	Indicator Value
1. Conscientiousness	1st Emotional Stability (23.3%)	3.59
2. Extraversion	2nd Conscientiousness (20.55%)	3.69
3. Agreeableness	3rd Opened to Experience (19.4%)	3.73
4. Emotion Stability	4th Agreeableness (19.25%)	4.03
5. Opened to Experience	5th Extraversion (17.4%)	3.29
SERVANT LEADERSHIP (ry3=0.327), Ranked 2nd		
Initial Indicator	Indicator After Expert Assessment	Indicator Value
1. Vision	1st Trust (12.35%)	4.10
2. Honesty	2nd honesty (11.6%)	3.02
3. Integrity	3rd integrity (11.5%)	4.02
4. Trust	4th Empowerment (11.4%)	4.10
5. Service	5th Pioneering (11.1%)	3.08
6. Modelling	6th vision (10.8%)	4.52
7. Pioneering	7th Appreciation of others (10.65%)	3.68
8. Appreciation of others	8th Service (10.2%)	3.77
9. Empowerment	9th Modelling (10.1%)	4.16
CULTURE VALUE (ry3= 0.478), Rank 1		
Initial Indicator	Indicator After Expert Assessment	Indicator Value
1. Morality	1st Morality (26.6%)	4.40
2. Religion	2nd Mutual cooperation (25.4%)	3.25
3. Mutual cooperation	3rd Religion (24.55%)	4.70
4. Friendliness	4th Friendliness (22.3%)	4.6
INTERPERSONAL COMMUNICATION (ry4=-0.413), Ranking 4		
Initial Indicator	Indicator After Expert Assessment	Indicator Value
1. Sportsmanship	1st Empathy (21.55%)	3.69
2. Empathy	2nd Sportsmanship (21.3%)	3.70
3. Tolerance	3rd Sympathy (20.85%)	3.95
4. Reflection	4th Tolerance (19.25%)	4.11
5. Sympathy	5th Reflection (16.7%)	2.95
OCB		
Initial Indicator	Indicator After Expert Assessment	Indicator Value
1. Altruism	1st *Altruism* (21.3%)	3.15
2. Sportmanship	2nd *Sportmanship* (20.95%)	3.14

3. Civic Virtue	3rd Civic Virtue (19.65%)	2.89
4. Courtesy	4th Courtesy (19.5%)	3.37
5. Self-Development	5th Self Development (18.35%)	2.95

Table 3 Determination of Optimal Solutions

Priority Order of Indicators to be Improved	Order of Indicators Maintained/Developed
1st Mutual cooperation	1. Morality
2nd *Honesty*	2. Religion
3rd *Service*	3. Friendliness
4th *Pioneering*	4. *Trust*
5th *Appreciation of others*	5. *Integrity*
6th *Emotional Stability*	6. *Empowerment*
7th *Consciensiousness*	7. *Vision*
8th *Opened to Experiences*	8. *Modelling*
9th *Extraversion*	9. *Agreeableness*
10th Empathy	10.Tolerance
11th Sportsmanship	
12th Sympathy	
13th Reflection	
14th *Altruism*	
15th *Sportmanship*	
16th *Civic Virtue*	
17th *Courtesy*	
18th *Self-Development*	

Based on Table 3, which shows the priority order for indicator improvement, the SITOREM analysis of indicators that influence teachers' OCB identifies two main priority groups: indicators that need improvement and those that need to be maintained or developed. This determination is based on a comparison between the theoretical contribution value (phi) and the actual empirical conditions measured in the field. The group of indicators that need improvement consists of 18 (eighteen) main indicators that make important contributions but still have low actual conditions. The main priorities for indicator improvement include: 1) cooperation, 2) Honesty, 3) Service, 4) Pioneering, 5) Appreciation of Others, 6) Emotional Stability, 7) Conscientiousness, 8) Openness to Experience, 9) Extraversion, 10) Empathy, 11) Sportsmanship, 12) Sympathy, 13) Reflection, 14) Altruism, 15) Sportsmanship, 16) Civic Virtue, 17) Courtesy, and 18) Self-Development are also included in the group of indicators that need improvement. Meanwhile, 11 indicators in the group of indicators are maintained and developed, namely: 1) Morality, 2) Religion, 3) Friendliness, 4) Trust, 5) Integrity, 6) Empowerment, 7) Vision, 8) Modelling, 9) Agreeableness, and 10) Tolerance. Overall, the results of this SITOREM analysis provide strategic direction for managerial decision-making, particularly in designing programs to improve and develop teachers' professional skills. The main focus is on improving personal and social competencies that are not yet optimal, while continuing to build on the strengths each individual already possesses. This approach is expected to comprehensively and sustainably improve teachers' OCB.

This synthesis shows that conceptual clarity and measurement have improved significantly. However, a better understanding of cross-cultural dynamics, the digital environment, and OCB boundary conditions is still needed (Pandya, 2025). OCB can also be improved through interpersonal communication variables (Astuti, 2025). Innovative work behaviour can encourage OCB (Burhan & Anindita, 2024). The importance of OCB is reinforced by organisational culture, teamwork, personality, and decision-making (Octavita et al., 2024). Based on these studies, OCB can be enhanced by personality and organisational factors, which will ultimately impact the organisation's success.

An organisation desperately needs dedicated workers to achieve its goals (Giovanni et al., 2023). In addition, school management must be responsible for creating a pleasant working environment by promoting a supportive and inclusive corporate culture (Riatmaja et al., 2024). Because highly dedicated employees demonstrate commitment, responsibility, and sincerity in carrying out their duties, organisations will find it easier to achieve their goals. With this dedication, the quality of individual and team performance can be improved, thereby optimising the organisation's overall productivity. Therefore, school management must create a positive, supportive, and inclusive work environment so that every employee feels valued, motivated, and ready to do their best.

CONCLUSION

According to the results of the SITOREM analysis (Science Identification Theory for Conducting Operational Research in Educational Management), many indicators need to be prioritised for improvement because they make a significant contribution, yet their current conditions remain low. To support the optimal achievement of organisational goals, 18 key indicators need to be improved through various development strategies, including cooperation, honesty, service, Pioneering, Empathy, and self-development. Meanwhile, 11 existing indicators need to be maintained, such as morale, Religion, hospitality, Trust, integrity, strength, vision, model, Tolerance, and agreement. Therefore, the findings of the SITOREM analysis provide management with strategic direction to prioritise the improvement and development of indicators that affect organisational performance and effectiveness.

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