

## Performance of Muhammadiyah Hospital as Social Entrepreneurship Organization: The Role of Leadership Effectiveness

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### ABSTRACT

**Background:** Muhammadiyah is one of the largest religious organizations in Indonesia which owns and manages the largest non-profit hospitals for more than a hundred years. Muhammadiyah Hospital is a model of social entrepreneurship organization (SEO). Studies related to the performance of Muhammadiyah hospital organizations and their relationship with several other related variables have not been widely conducted and have focused more on Muhammadiyah's philanthropic activities and roles, Muhammadiyah's history in the field of health services, and the ethics of Muhammadiyah's health service. Therefore, this research aims to explore the relationship of variables Servant Leadership, Managerial Cognitive Capability, and Emotional Regulation to shape Organizational Performance (OP) with intermediate variable: Leadership Effectiveness in Muhammadiyah Hospitals. This research utilizes primary data which was collected through phone-call surveys with 443 top and middle management respondents at 111 Muhammadiyah Hospitals in Indonesia. The data was collected by trained and experienced Enumerators using structured questionnaire designed specifically for each type of respondents.

**Methods:** The study utilizes Structural Equation Modelling (SEM) methods using Maximum Likelihood Estimation. The method is used to analyze the influence of variables Servant Leadership, Managerial Cognitive Capability, and Emotional Regulation: Improving and Worsening (IMP and WOR) on Organizational Performance (OP) with Leadership Effectiveness as a mediator.

**Results:** The study results found that Servant Leadership, Managerial Cognitive Capability, and Emotional Regulation: Improving (IMP) have a positive effect on Leadership Effectiveness. The increasing Servant Leadership, Managerial Cognitive Capability, and Emotional Regulation: Improving (IMP) will increase Leadership Effectiveness. Meanwhile, Emotional Regulation: Worsening (WOR) has a negative effect on Leadership Effectiveness. Increasing Emotional Regulation: Worsening (WOR) will reduce Leadership Effectiveness. The analysis results show that Leadership Effectiveness variable directly affects Organization Performance positively, in terms of the effect of Leadership Effectiveness as a mediate variable.

**Conclusion:** This research concludes that leadership effectiveness play an important role in the cognitive abilities of hospital directors in driving hospital performance and the hospital director's cognitive ability is the key to strengthen leadership effectiveness. Considering limitations of this research, future studies should employ a-mix method of quantitative and qualitative data collection technique to bring deeper analysis results, as well as include diverse leadership types other than servant leadership to explore their relationship with the organization performance.

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## INTRODUCTION

Leadership is a managerialist skill to influence organizational members towards goals that are specifically determined by the organization. Leadership determines the direction and orientation of the organization outlined in its vision and mission.

Since the 21st century, the development of holistic leadership model based on leader morals has become a major concern for organizational development because it contributes to organizational success and sustainability. It also has an impact on society's welfare (1). The leadership model is known as servant leadership, which has transformational, ethical, authentic and servant characteristics. In this leadership model, leaders tend to prioritize meeting the needs of followers, such as employees, customers and other stakeholders, rather than satisfying their personal needs (2).

Organizational ability to deal with change and leadership effectiveness have a role to bridge the internalization of influences from the individual and managerial levels to influence the company's organizational performance. Organizational ability to deal with change refers to the organization's ability to adapt and change in line with environmental changes, both internal and external, to achieve organizational goals (3). To have the ability to adapt to change, it requires multidimensional analysis at the individual, managerial and even environmental levels (4,5). Meanwhile, leader effectiveness refers to the extent to which leaders can achieve predetermined goals, influence subordinates, and maintain organizational performance (6). Leadership effectiveness has specific characteristics that are demonstrated by leadership behaviors or models. Effective leadership can build the best situation for the organization through effectiveness in using skills and controlling organizational processes (7). Furthermore, effective leadership also proves to be able to effectively influence followers and policy makers in the organization to realize organizational goals (8).

Improving organization performance is becoming increasingly important in its efforts to create the quality of Indonesia's human resources through development priorities, one of which is in the health development sector. Health development is an essential effort carried out by all components of Indonesia which aims to increase awareness, willingness and ability to live healthy for everyone. It is then expected to improve public health, as an investment for the development of socially and economically productive human resources. Furthermore, the development of the health sector to actualize the Sustainable Development Goals (SDGs) is carried out through the Healthy Indonesia program (Program Indonesia Sehat), namely first, actualize a healthy paradigm in health services and promoting health as the main capital for development; second, increasing access and quality of health services; and third, comprehensive national health insurance (9).

The synergy and continuity of public and private health services are instrumental in realizing quality of health services improvements in Indonesia. Furthermore, the success of health development is largely determined by the availability and ease of access of health services by the community. One of the health care facilities at the forefront of services is the hospital. In addition to government, private hospitals make an important contribution to the provision of health services, including those provided by non-profit organizations and private companies or profit-oriented companies. For this reason, private health facilities are very important in supporting the health service chain for the Indonesian to increase their access and services that have not been provided by government-owned health facilities.

Muhammadiyah is one of the private sectors providing health services for more than a century. The first Muhammadiyah health clinic was established on February 15, 1923, in Yogyakarta. Therefore, in 2023, Muhammadiyah will note exactly one hundred years of its health service activities through the *Penolong Kesengsaraan Oemoem (PKO) Clinic* in Yogyakarta (10).

The phenomenon of the continuous development of Muhammadiyah hospitals for more than a hundred years is interesting to study in more depth. Muhammadiyah's status as a non-profit institution has internal values that are the goals of the organization. Its existence for more than a hundred years is one of the empirical types of evidence of the ability of the Muhammadiyah hospital organization to face external challenges and dynamics within the organization (11).

The important role of Muhammadiyah hospitals quantitatively and qualitatively is a necessity. This cannot be separated from the experience of Muhammadiyah's work and the organization's vision of *dakwah bil-hal*, namely concrete actions in overcoming various community problems, namely poverty, education, and health. In addition, the role of Muhammadiyah hospitals was again proven during the Covid-19 pandemic where Muhammadiyah health services have been at the forefront since the pandemic began in early 2020. Initially, Muhammadiyah alerted 15 hospitals but increased to 86 hospitals involved in serving Covid-19 patients (12).

The research with the object of Muhammadiyah Hospital is interesting because the background of the organization is a socio-religious organization, not a family foundation entity or a commercial or corporate group that is oriented towards profit. Faith-based organizations (FBOs) or religious groups have a significant role in the field of

health and welfare both nationally and globally, especially for the poor (13). According to Prasetyo et.al (2021), Muhammadiyah with the characteristics of the organization and activities carried out is included in the Social Entrepreneurship Organization (SEO) category (14). The characteristics of Muhammadiyah certainly provide derivation to all Muhammadiyah activities, including in hospital charities. The performance of Muhammadiyah hospitals cannot only be measured using the standards used by organizations that are characterized as commercial corporations.

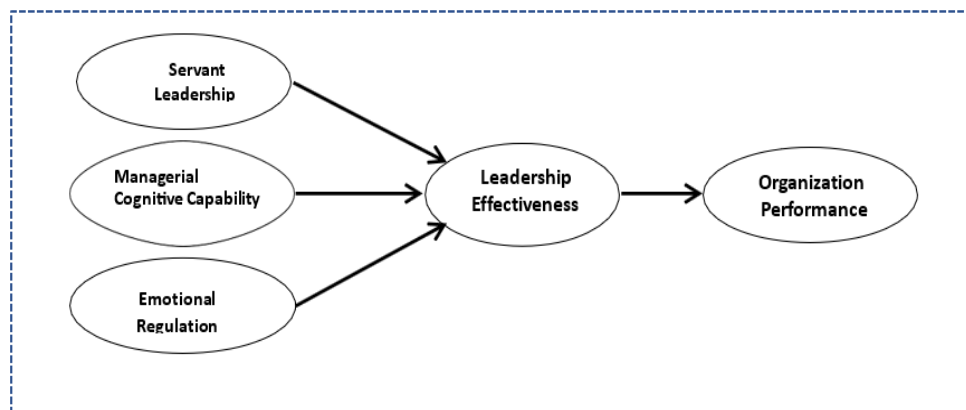
Organizational performance is also indirectly influenced by variables of leadership style and leadership effectiveness. The leadership model in Muhammadiyah, which is a collegial collective, is not found in many other organizations. In accordance with the message of the founder of Muhammadiyah, KH Ahmad Dahlan when inaugurating the PKO Clinic Muhammadiyah Yogyakarta in 1923; "The objective of PKO is to help misery using the principles of Islam with all people, not by dividing nations and religions" (15). This message characterizes the inclusive services of Muhammadiyah hospitals, as a form of servant leadership and adheres to religious principles (ethics). This is also stated in Muhammadiyah's vision in the health sector, namely the development of superior health and welfare service functions based on PKO to improve the quality and progress of people's lives, especially the poor. This is an actualization of Muhammadiyah's da'wah (16).

Several studies on leadership characteristics have been shown to significantly influence organizational performance, employee loyalty and trust (17-20). However, in the case of some organizations in several countries, it does not show a significant influence between the leadership model and organizational performance (21).

Research using a data meta-analysis approach to the evolution of research in organizational theory proved a positive relationship between servant leadership and the outcome of organizational goals (22,23). Sukoco et al. (2022) and Adna and Sukoco (2020) mentioned the leadership model by considering the managerial cognitive capability contributes to organizational performance through the organization's ability to change. Emotional regulation is also advocated to be an important factor underlying effective leadership given the task demands and interpersonal stress that organizational leaders face (24,25). In leadership settings, leaders may need to intentionally modify their emotional experiences and expressions to exert influence over followers (26). In addition, leaders may need to manage their emotions to facilitate performance on daily tasks (27-31). Managing emotions effectively is key to successful leadership.

Several studies confirm the importance of analyzing the role of leadership effectiveness and models, and the organization's ability to deal with change in a multidimensional or multi-level manner, namely from an individual and organizational lens (32-25). Other studies also explain that there is a positive relationship between leadership effectiveness and the level of organizational performance (36-38). Hence, at the individual level the effective leadership variable mediates between leadership style and organizational performance.

Based on the empirical background and theoretical basis, this research tries to analyze the relationship between organizational performance as the dependent variable with servant leadership style, managerial cognitive capability, and emotional regulation as independent variables through leadership effectiveness as a mediating variable. The relationship between the three variables in this research is described in the conceptual framework as follows:



**Figure 1.** Research conceptual framework

## METHOD

This research uses a quantitative approach with an explanatory design, which analyses causal relationships using statistical correlations to describe and measure the level of relationship between two or more variables (39). The method used in this research is Structural Equation Modelling (SEM), with parameter estimation in modelling with SEM using Maximum Likelihood Estimation.

The causal relationship examined in this research is to determine the effect of the variables servant leadership, managerial cognitive capability, and emotional regulation on Organization Performance (OP) with leadership effectiveness variables as mediators.

The data used in this research model is primary data collected through a survey using structured questionnaire. The questionnaire uses a Likert scale with an interval of 1 (indicating negative value) to 7 (indicating positive value). The data was collected from multiple sources, namely on top (Directors/Deputy Directors or Board of Muhammadiyah) and middle hospital management (Managers). Therefore, there were two types of questionnaires used for this research, i.e.: questionnaire for top hospital management respondents and questionnaire for middle hospital management respondents. Survey with middle hospital management questioned about indicators related to servant leadership, managerial cognitive capability, emotional regulation, and leadership effectiveness, while survey with hospital top management (Directors/Deputy Directors/Board of Muhammadiyah) questioned the indicators of organizational performance.

The data was collected over phone-call surveys which were carried out by eight Enumerators who had been trained before the data collection process deployment. The data collection process was carried out for four weeks.

## Ethical Approval

This research was approved by the Health Research Ethics Committee of RS PKU Muhammadiyah (Approval Number: 02/KEPK/RS.PKU/VIII/2024). The study is declared to be ethically appropriate in accordance to seven (7) WHO 2011 Standards: (1) Social values, (2) Scientific values, (3) Equitable assessment and benefits, (4) Risks, (5) Persuasion/Exploitation, (6) Confidentiality and privacy, and (7) Informed consent, referring to the 2016 CIOMS Guidelines This is as indicated by the fulfilment of the indicators of each standard.

## RESULTS AND DISCUSSION

The respondents of this research are multisource respondents, namely Hospital Directors/Deputy Directors/Board of Muhammadiyah and Managers. In total, there are 111 hospital Director respondents and 332 Manager respondents. The percentage of male respondents for the Director/Deputy Director/Board of Muhammadiyah is higher (56.8%) than the female respondents (63.9%). More specifically, Table 1 below shows the percentage of male and female respondents disaggregated by respondent positions.

**Table 1.** Respondent Characteristics by Gender, Age-group, and Highest Education Attained/Pursued

Respondent Characteristics	Categorization	Director/Deputy Director		Manager	
		Frequency	Percent	Frequency	Percent
Gender	Male	63	56.8%	120	36.1%
	Female	48	43.2%	212	63.9%
Age-group	26-30 Years	2	1.8%	46	13.9%
	31-40 Years	34	30.6%	121	36.4%
	41-50 Years	39	35.1%	112	33.7%
	51-60 Years	26	23.4%	53	16.0%
	> 60 Years	10	9.0%	-	-
Highest Education Attained/Pursued	High school or less	0	0%	6	1.8%
	Diploma I/II/III	0	0%	19	5.7%
	Diploma IV / Bachelor	7	6.3%	120	36.1%
	Master	79	71.2%	97	29.2%

Doctorate	8	7.2%	7	2.1%
Professional Education (Specialist, Nurse, Consultant)	17	15.3%	83	25.0%

Based on the age-group category, 67.5% of respondents of Director/Deputy Directors/Board of Muhammadiyah are 40 years old or older, while the Manager respondents are relatively younger or less than or equal to 40 years old (50.3%). Table 1 also shows the highest level of education completed or being pursued by respondents. Most Hospital Director/Deputy Directors/Board of Muhammadiyah completed or are currently pursuing their master's degree (S2), with a percentage of 71.2%, followed by 15.3% at the professional education level (Specialist, Nurse, or Consultant), and 7.2% at the doctoral level (S3). Meanwhile, the highest level of education completed or being pursued by Managers are higher educations, incl. Diploma, Bachelor, or Postgraduate level (67.4%). 25.0% of respondents have completed or are currently pursuing their professional education and 1.8% of Manager respondents have completed their high school education or equivalent.

The distribution of respondents' length of service in the hospital and length of service in their current position is shown in Table 2. Respondents' length of service in the hospital are categorized into four-time ranges, namely < 5 years, 5-10 years, 10-15 years, and > 15 years.

Table 2 shows that most Hospital Director/Deputy Directors/Board of Muhammadiyah respondents worked in the Muhammadiyah hospitals for 15 years or less (75.6%), the rest said they had worked for more than 15 years. Meanwhile, 50.0% of Manager respondents worked for more than 10 years and another 50% for up to 10 years. Nevertheless, the percentage of Manager respondents with more than 15 years of service was the largest (33.7%).

Next, the respondents were asked about the length of service they had served in their current position, i.e. as a hospital Director/Deputy Director/Board of Muhammadiyah or as a manager. In general, most of the Director and Manager respondents have served in their current position for less than 5 years, with a percentage of 74.7% and 76.8%, respectively.

**Table 2.** Respondent Characteristics by Length of Service in Muhammadiyah Hospital and in Current Position

Respondent characteristics	Categorization	Director/Deputy Director		Manager	
		Frequency	Percent	Frequency	Percent
Length of Service in Muhammadiyah hospital	< 5 Years	35	31.5%	98	29.5%
	5-10 Years	34	30.6%	68	20.5%
	11-15 Years	15	13.5%	54	16.3%
	> 15 Years	27	24.3%	112	33.7%
Length of Service in Current Position	< 2 Years	40	36.0%	138	41.6%
	2-5 Years	43	38.7%	117	35.2%
	6-10 Years	22	19.8%	51	15.4%
	> 10 Years	6	5.4%	26	7.8%

Manager respondents are leaders of working units in the respective hospital, consisting of Managers or Heads of Division or Heads of Department or other levels in the hospital. In total, there were 332 Manager respondents who occupied positions as shown in Table 3.

**Table 3.** Manager Respondents by current title/position

Title/Position	Frequency	Percent
Manager	112	33.7%
Head of Division	94	28.3%
Head of Department	76	22.9%
Head of Sub-division/sub-department	22	6.6%
Head of Unit/section	6	5.2%

Deputy Director	4	1.2%
Others		2.1%

Table 3 shows that in addition to Manager, respondents from middle management are Head of Division, Head of Department, Head of Sub-division/Sub-department, or Head of Unit/section. 1.2% of Deputy Directors are in middle management respondents which is in accordance with the nomenclature of the respective Muhammadiyah Hospitals that the deputy director positions are at managerial level.

### Structural Equation Modelling (SEM)

The method used in this research is Multilevel-Structural Equation Modelling (SEM), with parameter estimation in modelling with SEM using Maximum Likelihood Estimation. Some underlying assumptions in SEM analysis must be satisfied and they are detailed as follows.

### Assumption of Reliability of Each Indicator Variable (Construct)

Before doing analysis using SEM modelling, it is necessary to check whether the resulting indicator variables (constructs) are consistent or reliable. Reliability checks on the model refer to composite reliability value. The composite reliability calculation results are presented in Table 4 below.

**Table 4.** Results of Variable Reliability Check and Conclusions

Variables	Composite Reliability	Conclusion
Organization Performance (OP)	0.70	Reliable
Servant Leadership (SEL)	0.86	Reliable
Managerial Cognitive Capability (MCC)	0.90	Reliable
Emotional Regulation: Improving (IMP)	0.83	Reliable
Emotional Regulation: Worsening (WOR)	0.85	Reliable
Leadership Effectiveness (LE)	0.86	Reliable

Nunnally and Bernstein (1994) in Waluyo (2016) state that in exploratory research, composite reliability 0.5 - 0.6 or higher is acceptable. The table above shows that the construct reliability value for each variable is higher than 0.5; therefore, we conclude that the resulting indicator (construct) variables are consistent or reliable.

### Validity Assumptions Using Confirmatory Factor Analysis (CFA)

A test was carried out to confirm that the indicators have a significant effect in forming each of the latent variable. An indicator is valid or has a significant effect in forming latent variable if the resulting *P*-value is less than the significant level. The following are the results of processing using Confirmatory Factor Analysis (CFA) using  $\alpha = 0.05$ .

### Organization Performance (OP)

The latent variable Organization Performance (OP) has three forming indicators. The following Table 5 is the processing result of CFA from each indicator forming the OP variable.

**Table 5.** CFA Test Results for Each Indicator Forming OP Variable

Shaping Indicators	Estimate	<i>P</i> -Value
OP1	0.62	0.00
OP2	<b>0.91</b>	0.00
OP3	0.55	0.00

\*) Remarks: Bold writing indicates the maximum estimate value.

### Servant Leadership (SL)

The Servant Leadership (SL) latent variable has six forming indicators. The following Table 6 is the processing result of CFA from each indicator forming the SL variable.

**Table 6.** CFA Testing of Each Indicator Forming the SL Variable

Shaping Indicators	Estimate	P-Value
SL1	0.58	0.00
SL2	0.65	0.00
SL3	0.78	0.00
SL4	0.74	0.00
SL5	<b>0.85</b>	0.00
SL6	0.77	0.00

\*) Remarks: **Bold** writing indicates the maximum *estimate* value.

### Managerial Cognitive Capability (MCC)

The latent variable Managerial Cognitive Capability (MCC) has 12 forming indicators. The following Table 7 is the processing result of CFA from each indicator forming the MCC variable.

**Table 7.** CFA Testing of Each Indicator Forming the MCC Variable

Shaping Indicators	Estimate	P-Value
MCC <sub>1</sub>	0.43	0.00
MCC <sub>2</sub>	0.62	0.00
MCC <sub>3</sub>	0.71	0.00
MCC <sub>4</sub>	0.59	0.00
MCC <sub>5</sub>	0.81	0.00
MCC <sub>6</sub>	0.61	0.00
MCC <sub>7</sub>	<b>0.86</b>	0.00
MCC <sub>8</sub>	0.82	0.00
MCC <sub>9</sub>	0.70	0.00
MCC <sub>10</sub>	0.53	0.00
MCC <sub>11</sub>	0.61	0.00
MCC <sub>12</sub>	0.74	0.00

\*) Remarks: **Bold** writing indicates the maximum *estimate* value.

### Emotional Regulation: Improving (IMP)

The latent variable *Emotional Regulation: Improving* (IMP) has six forming indicators. The following Table 8 is the processing result of CFA from each indicator forming the ER-IMP variable.

**Table 8.** CFA Testing of Each Indicator Forming the ER-IMP Variable

Shaping Indicators	Estimate	P-Value
IMP1	0.69	0.00
IMP2	0.47	0.00
IMP3	0.70	0.00
IMP4	0.69	0.00
IMP5	0.74	0.00
IMP6	<b>0.77</b>	0.00

\*) Notes: **Bold** writing indicates the maximum *estimate* value.

**Emotional Regulation: Worsening (WOR)**

The latent variable Emotional Regulation: Worsening (WOR) has six forming indicators. The following Table 9 is the processing result of CFA from each indicator forming the ER- WOR variable.

**Table 9.** CFA Testing of Each Indicator Forming the ER-WOR Variable

Shaping Indicators	Estimate	P-Value
WOR1	0.78	0.00
WOR2	<b>0.80</b>	0.00
WOR3	0.54	0.00
WOR4	0.58	0.00
WOR5	0.76	0.00
WOR6	0.57	0.00

\*) Remarks: **Bold** writing indicates the maximum *estimate* value

**Leadership Effectiveness (LE)**

The latent variable Leadership Effectiveness (LE) has six forming indicators. The following Table 10 is the processing result of CFA from each indicator forming the LE variable.

**Table 10.** CFA Testing of Each Indicator Forming the LE Variable

Shaping Indicators	Estimate	P-Value
LE1	<b>0.82</b>	0.00
LE2	0.65	0.00
LE3	0.77	0.00
LE4	0.56	0.00
LE5	0.79	0.00
LE6	0.81	0.00

\*) Remarks: **Bold** writing indicates the maximum estimate value

Table 5 to Table 10 show that the resulting *P-Value* of each indicator forming the latent variables OP, SL, MCC, ER-IMP, ER-WOR, LE is less than the significant level used (0.05). Thus, we conclude that all indicators can significantly shape each latent variable OP, SL, MCC, ER-IMP, ER-WOR, and LE.

The estimate values presented in Table 5 shows that OP2 indicator is the maximum value compared to other indicators to form the Organization Performance variables. It shows that the OP2 (SOC) indicator contributes 0.91 times to form the OP variable.

The estimate value presented in Table 6 shows that SL5 indicator is the maximum value compared to other indicators to form the Servant Leadership (SL) variable. It shows that the SL5 indicator contributes 0.85 times to form the SL variable.

The estimate value presented in Table 7 shows that MCC7 indicator is the maximum value compared to other indicators to form the Managerial Cognitive Capability (MCC) variable. It shows that the MCC7 indicator (SEI2) contributes 0.86 times to form the MCC variable.

The estimate value presented in Table 8 shows that IMP6 indicator is the maximum value compared to other indicators to form the Emotional Regulation: Improving (ER-IMP) variable. It shows that the IMP6 indicator contributes 0.77 times to form the IMP variable.

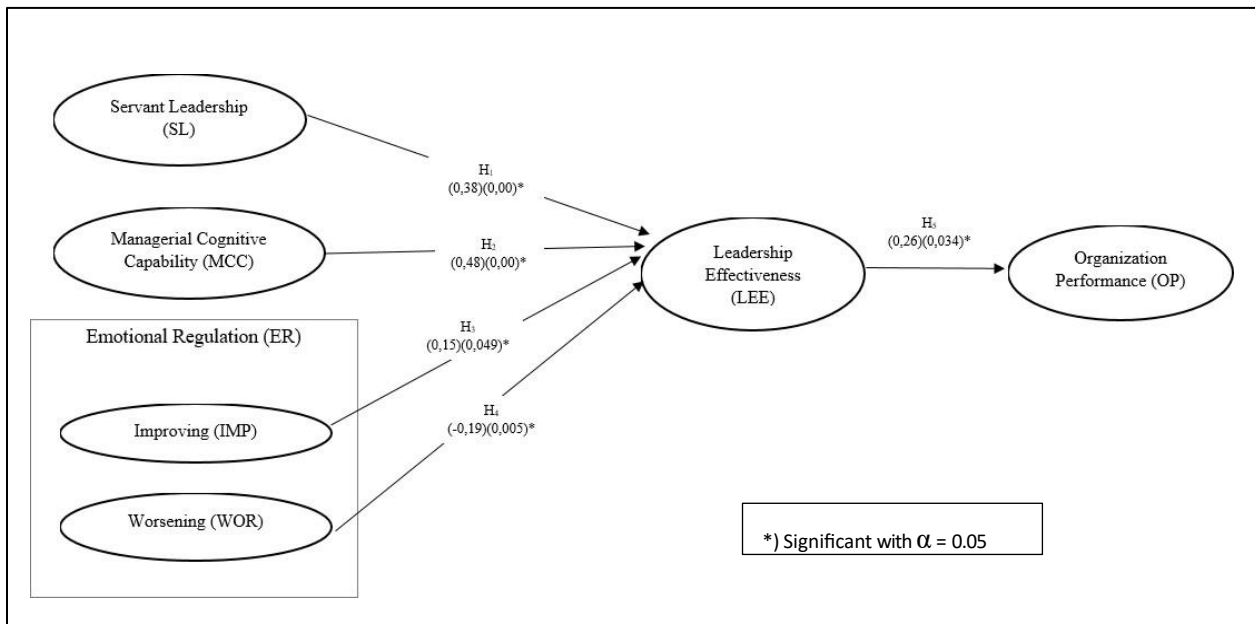
Meanwhile, the estimate value presented in Table 9 shows that WOR2 indicator is the maximum value compared to other indicators of the Emotional Regulation variable: Worsening (ER-WOR). It shows that the WOR2 indicator contributes 0.80 times to form the WOR variable.



The estimate value presented in Table 10 shows that the estimate value of LE1 indicator is the maximum value compared to other indicators to form the Leadership Effectiveness (LE) variable. It shows that the LE1 indicator contributes 0.82 times to form the LE variable.

**Structural Equation Modeling (SEM) Analysis**

The underlying assumption tests of SEM of the latent variables in this research are valid and reliable. Next, an analysis is carried out using the structural model equation to determine the relationship between latent variables. The structural model equation uses Structural Equation Modelling because the test is carried out for each individual and the organizational level. The following Figure 2 is the result of the processed visualization of the SEM model linking organizational performance as the dependent variable with servant leadership style, managerial cognitive capability, and emotional regulation as independent variables through leadership effectiveness as a mediating variable.



**Figure 2.** Visualization of Structural Equation Modelling (SEM)

The SEM model visualization presented in Figure 2 is summarized in the following Table 11 using estimate path coefficient of the formed structural equation and the conclusion resulted for each of the variable. The significance level is 0.05 ( $\alpha = 5\%$ ).

**Table 11.** Estimate Path Coefficient of Direct Effect Structural Equation and Significance Test of Each Latent Variable

Relationship	Path Coefficient	P-Value	Description
SL → LE	0.38	0.00	Significant
MCC → LE	0.48	0.00	Significant
ER-IMP → LE	0.15	0.049	Significant
ER-WOR → LE	-0.19	0.005	Significant
LE → OP	0.26	0.034	Significant

Table 11 shows that the variables Servant Leadership (SL), Managerial Capability Cognitive (MCC), Emotional Regulation: Improving (IMP) have a positive and significant effect on Leadership Effectiveness (LE), where Leadership Effectiveness (LE) also has a positive and significant effect on Organization Performance (OP). This shows that an increase in each of SL, MCC, ER-IMP will also increase LE, where an increase in LE will also increases OP. Meanwhile, it can also be obtained that Emotional Regulation: Worsening (WOR) has a negative and significant

effect on Organization Performance (OP). This shows that the more there is an increase in ER-WOR, the lower the OP will be. The structural equation model is written as follows:

$$LE = 0.38 SL + 0.48 MCC + 0.15 ER-IMP - 0.19 ER-WOR \quad OP = 0.26 LE$$

**Structural Relationship Between Servant Leadership (SL) and Leadership Effectiveness (LE)**

The equation shows that an increase in Servant Leadership (SL) will increase Leadership Effectiveness (LE) by 0.38 times.

**Structural Relationship Between Managerial Cognitive Capability (MCC) and Leadership Effectiveness (LE)**

The equation shows that an increase in Managerial Cognitive Capability (MCC) will increase Leadership Effectiveness (LE) by 0.48 times.

**Structural Relationship Between Emotional Regulation: Improving (ER-IMP) and Leadership Effectiveness (LE)**

The equation shows that an increase in Emotional Regulation: Improving (ER-IMP) will increase Leadership Effectiveness (LE) by 0.15 times.

**Structural Relationship Between Emotional Regulation: Worsening (ER-WOR) with Leadership Effectiveness (LE)**

The equation also shows that an increase in Emotional Regulation: Worsening (ER-WOR) will decrease Leadership Effectiveness (LE) by 0.19 times.

**Structural Relationship Between Leadership Effectiveness (LE) and Organization Performance (OP)**

The equation also shows that an increase in Leadership Effectiveness (LE) will increase Organization Performance (OP) by 0.26 times.

In addition to the direct effect on each latent variable, the indirect effect of the structural relationship was then estimated, where Leadership Effectiveness is used as a mediating variable between the latent variables Servant Leadership (SL), Managerial Cognitive Capability (MCC) and Emotional Regulation (ER) on Organization Performance. The following Table 12 shows the estimate indirect effect of the structural relationship visualized in Figure 2 above.

**Table 12.** Estimate Path Coefficient of Indirect Effect Structural Equation and Significance Testing of Each Latent Variable

Relationship	Path Coefficient
SL → LE → OP	0.13
MCC → LE → OP	0.21
ER-IMP → LE → OP	0.04
ER-WOR → LE → OP	-0.05

From the table above, it can be explained the magnitude of the indirect effects of exogenous latent variables on endogenous latent variables. Leadership Effectiveness (OCC) provides the largest indirect effect on Managerial Cognitive Capability (MCC) on Organization Performance (OP) of 0.21. The Mediation Effect can be done using the VAF (Variance Accounted For) value in the following equation:

$$VAF = \frac{\text{indirect effect}}{\text{total effect}} = \frac{a \times b}{(a \times b) + c}$$

Description:  $a \times b$  is the indirect effect path coefficient and  $c$  is the direct effect path coefficient. If the VAF value is  $< 20\%$ , it can be concluded that there is no mediation effect. If the VAF value is  $20\% - 80\%$ , it can be concluded that there is partial mediation. Meanwhile, if the VAF value  $> 80\%$ , it can be concluded that there is full mediation (40). The results shown in Table 10 indicate that the Leadership Effectiveness variable is a partial mediating variable of each latent variable Servant Leadership (SL), Managerial Cognitive Capability (MCC) and Emotional Regulation (ER) on Organization Performance (OP).

**Table 13.** Estimate Path Coefficient of Indirect Effect Structural Equation and Significance Testing of Each Latent Variable

Relationship	VAF	Conclusion
SL → LE → OP	25.49%	Partial Mediation
MCC → LE → OP	30.43%	Partial Mediation
ER-IMP → LE → OP	21.05%	Partial Mediation
ER-WOR → LE → OP	20.83%	Partial Mediation

### Limitations and Cautions

While this research provides meaningful contributions to understanding the relationship of Servant Leadership (SL), Managerial Capability Cognitive (MCC), Emotional Regulation: Improving (IMP) and Worsening (WOR) on Leadership Effectiveness (LE), and Organization Performance (OP), several limitations should be acknowledged. First, the research only used aggregate quantitative data without any qualitative data through key informant or in-depth interviews. Respondent's responds on the quantitative data can be better explained using interview results. Second, the research focused only on servant leadership style and no other leadership styles. Future studies should better employ a mix-method combining quantitative and qualitative data collection techniques to enable researcher team do more comprehensive analysis. In addition, the research can focus on other styles of leadership to elaborate their effectiveness.

### Recommendations for Future Research

Future studies should focus on addressing the identified limitations above. For instance, employing a mix-method of quantitative and qualitative data collection technique through surveys and in-depth interviews. This will enable the researcher to do triangulation with the analysis results. Additionally, incorporating other leadership styles than servant might result in deeper and comprehensive study to study the relationship between leadership effectiveness and organizational performance. This may include organizations other than religious-based organizations such as Muhammadiyah, but also private (or profit orientated) organization or public organization or others. Expanding research to include diverse leadership types and organization types would also contribute to the development of organizational leadership studies.

### CONCLUSION

Based on the results of analysis and discussion, it can be concluded that Servant Leadership (SL), Managerial Cognitive Capability (MCC), and Emotional Regulation: Improving (ER-IMP) have a positive effect on Leadership Effectiveness (LE), where increasing SL, MCC, and ER-IMP will increase LE. Meanwhile, Emotional Regulation: Worsening (ER-WOR) has a negative effect on Leadership Effectiveness (LE), which means that the increase in Emotional Regulation: Worsening (ER-WOR), will decrease LE. It is also found that the Leadership Effectiveness variable directly positively affects Organization Performance (OP). In terms of the effect of the LE mediating variable on each of the SL, MCC, ER-IMP and ER-WOR variables in influencing OP, the results show that the LE variable can become a mediating variable partially with the largest indirect effect given to the MCC variable in influencing OP.

The results of this research indicate that the cognitive ability of Muhammadiyah hospital directors is one of the main keys in influencing organizational performance. It is very important for Muhammadiyah hospital directors to understand and apply the concept of leadership that serves employees, patients, and Muhammadiyah as an organization. The ability of hospital directors to regulate their emotions must also be continuously improved through

various counselling activities to maintain their mental health. In addition, leadership training and increasing the managerial cognitive capacity of Muhammadiyah hospital directors must be carried out periodically and monitored at the implementation level. The goal to be achieved is that Muhammadiyah hospitals can continue to play a role and contribute in providing the best health services and in accordance with the needs of the community while still prioritizing the principle of service.

### **AUTHOR'S CONTRIBUTION STATEMENT**

Authors explicitly outline and describe their individual contributions to the research and the development of the manuscript. This statement is intended to provide transparency and clarity regarding each author's role in the project. It helps readers and reviewers understand the specific contributions of each author to the research process

### **CONFLICTS OF INTEREST**

Confirms that the authors have declared any potential conflicts that could influence the impartiality of the research. The authors explicitly state that they have no financial or personal relationships with entities that might unduly affect their objectivity. This declaration ensures the integrity of the study by transparently addressing any possible influences on the research outcomes, contributing to the credibility and trustworthiness of the article.

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### **BIBLIOGRAPHY**

1. Abbas, A., Ekowati, D., & Suhariadi, F. (2021). Individual psychological distance: A leadership task to assess and cope with invisible change. *Journal of Management Development*, 40(3), 168-189.
2. Abbas, A., Saud, M., Ekowati, D., Usman, I., & Suhariadi, F. (2021). Servant leadership: a strategic choice for organizational performance. An empirical discussion from Pakistan. *International Journal of Productivity and Quality Management*, 34(4), 468- 485.
3. Adna, B. E., & Sukoco, B. M. (2020). Managerial cognitive capabilities, organizational capacity for change, and performance: The moderating effect of social capital. *Cogent Business & Management*, 7(1), 1843310.
4. Armenakis, A. A., & Bedeian, A. G. (1999). Organizational change: A review of theory and research in the 1990s. *Journal of management*, 25(3), 293-315.
5. Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of management*, 27(6), 643-650.
6. Brundin, E., Liu, F., & Cyron, T. (2022). Emotion in strategic management: A review and future research agenda. *Long Range Planning*, 55(4), 102144.
7. Canavesi, A., & Minelli, E. (2021). Servant leadership: A systematic literature review and network analysis. *Employee responsibilities and rights journal*, 267-289.
8. Cardona, P., Rey, C., & Craig, N. (2019). Purpose-driven leadership. *Purpose-driven organizations: Management ideas for a better world*, 57-71.
9. Cardona, P., Rey, C., & Craig, N. (2019). Purpose-driven leadership. *Purpose-driven organizations: Management ideas for a better world*, 57-71.
10. Chughtai, A. A. (2016). Servant leadership and follower outcomes: Mediating effects of organizational identification and psychological safety. *The Journal of Psychology: Interdisciplinary and Applied*, 150(7),

- 866-880.
11. Durán, W. F., & Aguado, D. (2022). CEOs' managerial cognition and dynamic capabilities: a meta-analytical study from the microfoundations approach. *Journal of Management & Organization*, 28(3), 451-479.
  12. Eva, Nathan., Robin, Mulyadi., Sendjaya, Sen., Dierendonck, D.V., (2018). Servant Leadership: A systematic review and call for future research, *The Leadership Quarterly*, 30 (1).
  13. Fauzi, Indra N., Suhariadi, F., Hariyanto, Albertus E.P. & Astuti, Erlyn Y., (2024). Performance of Muhammadiyah Hospital as Social Entrepreneurship Organization Through Organizational Capability for Change. *Journal of Ecohumanism 2024 Volume: 3, No: 8*, pp. 1302 - 1314 I
  14. Gartenberg, C. (2022). Purpose-driven companies and sustainability. In *Handbook on the Business of Sustainability* (pp. 24-42). Edward Elgar Publishing.
  15. Ghozali, Imam. 2011. *Application of Multivariate Analysis with the SPSS Program*. Semarang: Diponegoro University Publishing Agency
  16. Hudson, A. J., Jordan, P. J., & Troth, A. C. (2023). How Leaders Regulate Emotions Experienced During Organization Change Events. In *Emotions During Times of Disruption* (Vol. 18, pp. 239-260). Emerald Publishing Limited.
  17. Humphrey, R. H. (2012). How do leaders use emotional labor? *Journal of Organizational Behavior*, 33(5), 740-744.
  18. Ibrahim, Abbas Umar & Daniel, Cross Ogohi (2019). Impact of leadership on organizational performance. *International Journal of Business, Management and Social Research*.
  19. Ministry of National Development Planning/Bappenas. (2021). *Indonesia's SDGs Roadmap to 2030*
  20. Khattak, Zeeshan, Abbas, Sammar, Kaleem, Muhammad (2019). Servant Leadership Style and Leadership Effectiveness: The Moderating Role of the Cognitive Style Index, *Global Social Sciences Review*, (IV-II).22, p. 165-172
  21. Kirkpatrick, S.A. and Locke, E.A. (1991). Leadership: Do Traits Matter? *Academy of Management Executive*, 5, 48-60
  22. Madanchian, Mitra, Hussein, Norashikin, Noordin, Fauziah, Thaerdoost, Hamed. (2017). Leadership Effectiveness Measurement and Its Effect on Organization Outcomes. *Procedia Engineering* 181:1043-1048.
  23. General Health Advisory Council, Muhammadiyah Builds the Health of the Nation (2022).
  24. General Health Advisory Council - Muhammadiyah Central Leadership.
  25. Majelis Pembina Kesehatan Umum, Muhammadiyah Builds the Health of the Nation (2015).
  26. General Health Supervisory Council - Muhammadiyah Central Leadership.
  27. Majelis Pembina Kesehatan Umum, Profile of Muhammadiyah Public Health Program 2005- 2020 (2020). Assembly of General Health Trustees - Muhammadiyah Central Leadership.
  28. Northouse, P. G. (2019). *Introduction to leadership: Concepts and practice*. Sage Publications.
  29. Prasetyo, Eko, Setyadharma, Andryan, Kistanti NR, (2021). The Collaboration of Social Entrepreneurship and Institution for Sustainable Regional Development Security, *Open Journal of Business and Management* 09(05):2566-2590.
  30. PW Braddy, J Gooty, JW Fleenor, FJ Yammarino (2014). Leader behaviors and career derailment potential: A multi-analytic method examination of rating source and self- other agreement. *The Leadership Quarterly* 25 (2), 373-390.
  31. Rachmawati, E. (2019). Islamic-Based Organization in Indonesia: Role of Muhammadiyah in Health Improvement. In *Proc. 1st Int. Conf. Soc. Determ. Heal. (ICSDH 2018)*, SCITEPRESS-Science and Technology Publications. (pp. 44-51).
  32. Rey, C., Bastons, M., & Sotok, P. (2019). Purpose-driven organizations: Management ideas for a better world (p. 138). Springer Nature.
  33. Rey, C., Velasco, J. S. C., & Almandoz, J. (2019). The new logic of purpose within the organization. *Purpose-driven organizations: Management ideas for a better world*, 3- 15.
  34. Saha, S., Das, R., Lim, W. M., Kumar, S., Malik, A., & Chillakuri, B. (2023). Emotional intelligence and leadership: insights for leading by feeling in the future of work. *International Journal of Manpower*, (ahead-of-print).
  35. Saleem, H. (2015). The impact of leadership styles on job satisfaction and mediating role of perceived

- organizational politics. *Procedia-Social and Behavioral Sciences*, 172, 563-569
36. Supriharyanti, E., & Sukoco, B. M. (2023). Organizational change capability: a systematic review and future research directions. *Management Research Review*, 46(1), 46-81.
  37. Thohari, Hajriyanto Y. (2021): Muhammadiyah as a Philanthropic Movement; Historical and Sociological Perspectives, *Lazismu East Java*, <https://doi.org/10.1002/job.1791>
  38. Viitala, R., Kultalahti, S., & Kangas, H. (2017). Does strategic leadership development feature in managers' responses to future HRM challenges?. *Leadership & Organization Development Journal*, 38(4), 576-587.
  39. Waluyo, M. (2016). *Easy Fast Precise Use of AMOS Tools in Applications (SEM)*. Surabaya: UPN "Veteran" Publisher
  40. Wesevich, J. W. (2022). *Servant Leadership Impact on Organizational Performance*. Wesevich, John W. (2022). *Servant Leadership Impact on Organizational Performance*. Doctoral Dissertations and Projects. 3607. <https://digitalcommons.liberty.edu/doctoral/3607>