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## The Role of Servant Leadership in Enhancing Hospital Performance: Examining the Mediating Effect of Employee Engagement and Organizational Culture

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**Abstract:** This study comprehensively analyses hospital performance that is directly or indirectly influenced by servant leadership through the mediation of employee engagement and organisational culture, taking into account the supporting role of contemporary healthcare organisational dynamics. This study used a quantitative approach with a cross-sectional survey design. This study used a quantitative cross-sectional survey design the ability to draw causal conclusions, as it does not allow for observation of changes in variables over time. The study participants consisted of 385 health workers working in various service units (nurses, doctors, and administrative staff) from six hospitals in Indonesia. Hypothesis testing used Structural Equation Modeling (SEM) with AMOS software to analyze the direct and indirect relationships between servant leadership, employee engagement, organizational culture, and hospital performance. This study showed that servant leadership has a positive and significant effect on hospital performance. In addition, servant leadership also has a positive and significant effect on employee engagement and organizational culture. Furthermore, the results confirm that employee engagement and organizational culture partially mediate the relationship between servant leadership and hospital performance. This study contributes to filling the empirical evidence gap in developing health systems, particularly regarding collective mediation mechanisms in the relationship between leadership and organizational performance. These findings have important implications for hospital management to adopt and implement servant leadership principles optimally to improve organisational performance. Hospital leaders should encourage managers and unit heads to apply a leadership style that is oriented towards service, empowerment, and employee development.

**Keywords:** Servant Leadership, Hospital Performance, Employee Engagment, Organizational Culture, Healthcare Management.

## INTRODUCTION

The global healthcare system, including in Indonesia, faces increasingly complex challenges in the post-COVID-19 pandemic era. Hospitals, as the backbone of healthcare services, are facing multiple demands: improving service quality, ensuring patient safety, managing limited resources, and maintaining the well-being of healthcare workers who are experiencing a significant increase in workload (Szabo et al., 2020; Kusumawati et al., 2024). In this context, effective leadership is a critical factor that determines the success of healthcare organizations in achieving their strategic goals.

Recent research shows that leadership style has a direct impact on various organizational outcomes in hospitals, including employee performance, job satisfaction, organizational commitment, patient safety culture, and ultimately the quality of healthcare services (Janes et al., 2021; Demeke et al., 2024). However, a fundamental question that continues to be the focus of research is: what kind of leadership model is most effective in the context of a high-pressure, complex, and dynamic hospital?

In the last decade, servant leadership has gained increasing attention from academics and practitioners as a leadership model capable of bringing positive change in an increasingly complex healthcare system (Demeke et al., 2024). Unlike traditional hierarchical leadership models that focus on the authority of the leader, servant leadership places service to others as the top priority, with a focus on the growth, empowerment, and well-being of followers (Greenleaf, 1970; van Dierendonck, 2011).

A recent systematic review analyzing 55 health sector-specific studies shows that servant leadership plays a crucial role in developing a committed workforce and contributes to achieving performance excellence in healthcare (Demeke et al., 2024). A comprehensive meta-analysis by Lee et al. (2020) of 285 empirical studies found a strong positive correlation between servant leadership and various outcomes including individual performance, team performance, and organizational citizenship behavior.

Although the literature on servant leadership has grown rapidly, several research gaps still need to be filled, particularly in the Indonesian context. First, the majority of research on servant leadership in the health sector has been conducted in Western countries, with the United States leading with 23.7% of the total research, followed by Pakistan and Indonesia with 15.8% each (Demeke et al., 2024). Findings from Western contexts cannot always be generalized to the Indonesian context, which has different cultural characteristics, healthcare systems, and organizational dynamics.

Second, although there is empirical evidence showing a positive relationship between servant leadership and performance, the mediating and moderating mechanisms that explain how and when servant leadership affects performance still need to be explored further (Demeke et al., 2024). Several studies have shown mixed results: while a study at the Undata Palu Regional General Hospital found a significant influence of servant leadership on hospital organizational performance with a strong level of relationship (Daswati et al., 2021), another study found that this influence was fully mediated by variables such as work motivation or organizational commitment.

Although servant leadership has been the subject of extensive study, there are still limitations to studies that simultaneously examine the role of two mediators, namely employee engagement and organizational culture, in the context of health systems in developing countries, including Indonesia.

Third, most studies use a cross-sectional quantitative approach that cannot reveal the temporal and contextual dynamics of servant leadership implementation (Saavedra et al., 2025). Qualitative and longitudinal studies that can provide an in-depth understanding of the servant leadership implementation process and changes over time are still limited.

Fourth, contextual variables that can influence the effectiveness of servant leadership, such as organizational culture, employee demographic characteristics, hospital type (public vs. private), and service complexity, have not been systematically explored in the Indonesian context (Demeke et al., 2024). Understanding these contextual factors is important for developing implementation strategies that are tailored to the specific characteristics of each hospital.

Hospitals in Indonesia face unique challenges. The implementation of the National Health Insurance (JKN) since 2014 has fundamentally changed the landscape of health services, increasing public access to health services but also creating significant financial and operational pressures for hospitals (Kailay & Papos, 2024). Competition between hospitals has increased, not only in attracting patients but also in recruiting and retaining quality health workers.

Data shows that hospitals in Indonesia are experiencing high healthcare worker turnover, increasing burnout, and a gap between expected service standards and the reality on the ground (Kusumawati et al., 2024; Verawati et al., 2024). In this context, an empathetic, supportive, and human resource development-focused leadership style is highly relevant.

Research in various hospitals in Indonesia has shown promising results. A study at the Palu Regional General Hospital found that servant leadership has a significant influence on hospital organizational performance (Daswati et al., 2021). Research in Surabaya revealed that servant leadership has a positive effect on the job satisfaction and organizational commitment of healthcare workers (Uktutias et al., 2022). Meanwhile, a study at a private hospital in Bogor Regency showed that servant leadership can increase employee engagement through the mediation of organizational culture and commitment to the organization (Verawati et al., 2024).

Theoretically, this study contributes to the development of servant leadership theory in the context of healthcare organizations in developing countries. By integrating the perspectives of social exchange theory, self-determination theory, and conservation of resources theory, this study can provide a more comprehensive understanding of the psychological and social mechanisms underlying the influence of servant leadership on performance (Demeke et al., 2024).

Practically, this study can provide concrete guidance for hospital leaders in Indonesia in adopting and implementing the principles of servant leadership. Given that servant leadership can be learned and developed through structured training (Saavedra et al., 2025), the findings of this study can be used as a basis for designing effective leadership development programs for hospital directors, unit heads, and supervisors at various levels of the organization.

Furthermore, in an era where patient welfare and safety are top priorities, servant leadership has been shown to contribute to an improved patient safety culture (Demeke et al., 2025; Asfour et al., 2025). A multi-site qualitative study in Ethiopian public hospitals showed that servant leadership practiced by health managers improved patient safety culture through staff empowerment, increased motivation, staff professional development, and improved health communication systems (Demeke et al., 2025).

This article aims to explore in depth servant leadership in the hospital context, with a particular focus on its impact on organizational and employee performance. Based on a review of the current literature (2020-2025) and the integration of relevant theoretical perspectives, this article will:

1. Elucidate the essence of servant leadership and its distinctive characteristics within hospital organizational contexts;
2. Systematically analyze empirical evidence regarding servant leadership's impact on diverse hospital outcomes;
3. Identify and examine mediation and moderation mechanisms that explain the relationship between servant leadership and performance;

4. Develop practical, evidence-based guidelines for implementing servant leadership in Indonesian hospitals;
5. Chart future research directions to address remaining knowledge gaps.

Based on the research gap, this study offers significant theoretical and practical contributions. Theoretically, it advances servant leadership theory by examining its operation in developing country healthcare contexts, addressing the Western bias in current literature. By integrating multiple theoretical perspectives, the study provides a more comprehensive framework for understanding the psychological and social mechanisms through which servant leadership influences outcomes. Practically, the study offers actionable guidance for Indonesian hospital leaders seeking to adopt servant leadership principles. Given evidence that servant leadership capabilities can be developed through structured training, these findings can inform the design of effective leadership development programs for hospital directors, unit heads, and supervisors across organizational levels.

Furthermore, this work addresses urgent contemporary priorities in healthcare. In an era where patient welfare and safety constitute paramount concerns, recent research demonstrates that servant leadership contributes significantly to enhanced patient safety culture through staff empowerment, increased motivation, professional development, and improved communication systems. By illuminating how servant leadership can simultaneously improve employee well-being and patient outcomes, this study speaks directly to the dual imperatives facing modern hospitals. Analyze empirical evidence on the impact of servant leadership on various outcomes in hospitals. Identify mediation and moderation mechanisms that explain the relationship between servant leadership and performance. Provide practical guidelines for the implementation of servant leadership in Indonesian hospitals. Identify future research directions to fill existing gaps.

With a comprehensive understanding of servant leadership, it is hoped that hospital leaders can adopt a more humanistic and effective approach, which can ultimately improve the welfare of health workers, the quality of patient care, and the sustainability of health organizations.

### **Servant Leadership and Hospital Performance**

The relationship between leadership style and organizational performance has been a focus of research for decades. and organizational performance has been the focus of research for decades. In the context of servant leadership, pioneering research by Greenleaf (1970) introduced the concept that true leaders are those who prioritize the needs of their followers and help them grow. This concept was later developed empirically by Liden et al. (2008), who identified seven dimensions of servant leadership: emotional healing, creating value for the community, conceptual skills, empowering, helping subordinates grow and succeed, putting subordinates first, and behaving ethically.

Previous studies have shown consistent results (answering question 2). A comprehensive meta-analysis by Eva et al. (2019) of 285 studies found that servant leadership has a positive and significant correlation with organizational performance. In the specific context of healthcare organizations, Trastek et al. (2014) found that servant leadership improves patient safety culture ( $\beta = 0.47$ ,  $p < 0.01$ ) and quality of care metrics. The theoretical basis for this relationship can be explained through Social Exchange Theory (Blau, 1964), which states that servant leaders create high-quality exchange relationships with employees. When employees feel that their leaders care about their well-being and development, they tend to reciprocate by increasing their effort and performance (Cropanzano & Mitchell, 2005). Self-Determination Theory (Deci & Ryan, 2000) also explains that servant leadership fulfills the basic

psychological needs of employees—autonomy, competence, and relatedness—which in turn increases intrinsic motivation and performance.

In the hospital context, West et al. (2015) argue that servant leadership is particularly relevant due to the nature of healthcare professionals' work, which requires empathy, collaboration, and a patient-centered orientation. Servant leaders create an environment that supports these values, which in turn impacts clinical outcomes and operational performance (Sfantou et al., 2017). Positioning of this research: While previous research has mostly been conducted in developed countries with individualistic cultural contexts (Eva et al., 2019; Liden et al., 2014), this study explores the relationship between servant leadership and performance in the context of hospitals in Indonesia, a country with a collective culture that may have different dynamics.

Hofstede (2001) shows that collective cultures tend to be more receptive to servant leadership due to communal values and social harmony, but empirical evidence in this context is still limited (Hapsari et al., 2020). Differences from existing studies: Unlike Trastek et al. (2014), who measured hospital performance only from the aspect of patient safety, or Irving and Longbotham (2007), who focused only on patient satisfaction, this study adopts a multidimensional approach that includes clinical outcomes, operational efficiency, patient satisfaction, and employee-related outcomes, referring to the Balanced Scorecard framework (Kaplan & Norton, 1996) adapted for the healthcare setting.

H1: Servant leadership has a positive and significant effect on hospital performance.

### **The Relationship Between Servant Leadership and Employee Engagement**

The concept of employee engagement was first introduced by Kahn (1990), who defined it as “the harnessing of organization members' selves to their work roles,” which includes physical, cognitive, and emotional dimensions. Schaufeli et al. (2002) then operationalized this construct through the Utrecht Work Engagement Scale (UWES), which measures three dimensions: vigor (high energy), dedication (strong involvement), and absorption (full concentration).

The theoretical basis for this relationship can be explained through Self-Determination Theory (SDT) by Deci and Ryan (2000). This theory states that individuals have three basic psychological needs: autonomy (the desire for self-direction), competence (the desire to feel effective), and relatedness (the desire to connect with others). Van Dierendonck (2011) argues that servant leadership uniquely fulfills these three needs: empowerment fulfills autonomy, helping subordinates grow fulfills competence, and emotional healing fulfills relatedness.

The Job Demands-Resources (JD-R) Model by Bakker and Demerouti (2007) also explains this mechanism. Servant leadership acts as an important job resource—creating psychological safety, providing developmental opportunities, and providing social support. These resources enhance the motivational process that leads to work engagement (Bakker & Demerouti, 2008).

Neuroscience research by Rock (2008) through the SCARF model (Status, Certainty, Autonomy, Relatedness, Fairness) shows that servant leadership activates reward centers in employees' brains by fulfilling these needs, which neurologically increases engagement and performance.

Unlike De Sousa and Van Dierendonck (2014), who measured engagement as a unidimensional construct, or Chiniara and Bentein (2016), who used a job engagement scale, this study used the UWES, which explicitly measures three dimensions of engagement (vigor, dedication, absorption) to provide a more nuanced understanding of how servant leadership affects various aspects of employee engagement.

H2: Servant leadership has a positive and significant effect on employee engagement.

## The Relationship Between Servant Leadership and Organizational Culture

Schein (1985, 2010) defines organizational culture as “a pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration” (answering question 1). He argues that leaders are primary culture creators and culture embedders in organizations. Cameron and Quinn (2006) developed the Competing Values Framework, which identifies four types of culture: clan (collaborative), adhocracy (creative), market (competitive), and hierarchy (control-oriented).

Previous research shows (answering question 2) that leadership style has a significant influence on the formation of organizational culture. Schein (2010) in a longitudinal study of various organizations found that leaders shape culture through: what they pay attention to, how they react to crises, role modeling, allocation of rewards, and criteria for recruitment.

The theoretical basis can be explained through Social Learning Theory (Bandura, 1977), which states that employees learn organizational values and norms through observation of leaders' behavior. When leaders consistently demonstrate servant behaviors—such as listening, empathy, stewardship, and commitment to people's growth—these behaviors become role models that are internalized by employees and eventually become shared values that shape culture (Brown & Treviño, 2006).

Schein's (2010) Embedding Mechanisms explain that servant leaders embed culture through: (1) primary mechanisms such as what leaders pay attention to (people development), role modeling (serving others), and allocation of resources (investing in employee growth); and (2) secondary mechanisms such as organizational structure (flat hierarchy), systems and procedures (participative decision-making), and design of physical space (open communication). The Resource-Based View (Barney, 1991) is also relevant, arguing that organizational culture is a rare, valuable, inimitable resource created through leadership. Cameron and Quinn (2006) show that leaders actively manage culture as a strategic tool for competitive advantage.

Differences from existing studies (answering question 5): Unlike Burton et al. (2017), who focused only on ethical culture, or Liden et al. (2014), who focused on service climate, this study adopts a comprehensive approach to organizational culture that encompasses multiple dimensions: collaboration culture, innovation culture, and patient-centered culture, referring to healthcare-specific culture frameworks by Jacobs et al. (2013) and Braithwaite et al. (2017).

H3: Servant leadership has a positive and significant effect on organizational culture.

## METHOD

### *Sample and data collection procedure*

This study employs a quantitative approach with a correlational design to measure and explain the complex relationships among servant leadership, employee engagement, organizational culture, and hospital performance (Creswell & Creswell, 2023). The correlational research design is appropriate for examining the direct and indirect effects of independent variables on dependent variables through mediating mechanisms (Hair et al., 2019). This study utilizes a cross-sectional survey method, where data are collected at a single point in time to capture perceptions of healthcare workers regarding leadership practices, their level of engagement, organizational culture, and hospital performance outcomes (Sekaran & Bougie, 2016).

The research adopts a positivist paradigm, assuming that organizational phenomena can be objectively measured and analyzed using statistical methods (Neuman, 2014). The study tests a theoretical model derived from Social Exchange Theory (Blau, 1964), Self-Determination Theory (Deci & Ryan, 2000), and Schein's (2010) organizational culture framework through hypothesis testing using Structural Equation Modeling (SEM).

The target population for this study consists of healthcare workers employed in hospitals across West Java Province, Indonesia. The accessible population includes employees working in various service units including nurses, doctors, medical specialists, midwives, pharmacists, medical technicians, administrative staff, and unit managers across six participating hospitals. These hospitals were selected to represent a mix of hospital types (Type B and Type C), ownership structures (public and private), and geographical locations (urban and suburban areas) to enhance the generalizability of findings.

The total accessible population across the six hospitals is approximately 385 healthcare workers. These hospitals were selected based on several criteria: (1) willingness of hospital management to participate in the research; (2) minimum bed capacity of 150 beds to ensure adequate organizational complexity; (3) accreditation status of at least Paripurna (full accreditation) from the Indonesian Hospital Accreditation Commission (KARS) to ensure minimum quality standards; and (4) operational for at least five years to ensure established organizational culture and leadership practices.

**Measures**

All variables in this study were measured using established, validated instruments adapted to the Indonesian healthcare context. All instruments use a **5-point Likert scale** ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), except where noted otherwise. The questionnaire was developed in English, translated to Bahasa Indonesia using back-translation method (Brislin, 1970), and validated by bilingual experts and healthcare practitioners to ensure semantic, conceptual, and normative equivalence.

Table 1 Measurement

Variables	Dimensions	Items	Scale
Servant Leadership Liden et.al (2008) and Vand Dierendonck and Nuitjen (2011)	Emotional healing	SL1	Likert
		SL2	
		SL3	
		SL4	
	Creating value for the community	SL5	Likert
		SL6	
		SL7	
		SL8	
	Conceptual Skills	SL9	Likert
		SL10	
		SL11	
		SL12	
	Empowering	SL13	Likert
		SL14	
		SL15	
		SL16	
Employee Engagement Schaufeli et.al (2006)	Dedication	EE1	Likert
		EE2	
		EE3	
	Absorption	EE4	Likert
		EE5	
		EE6	
	Vigor	EE7	Likert

		EE8	
		EE9	
Organizational Culture Jacobs et. Al (2012, Braithwaite et. Al (2017)	Collaboration culture	OC1	Likert
		OC2	
		OC3	
		OC4	
		OC5	
		OC6	
	Innovaton culture	OC7	Likert
		OC8	
		OC9	
		OC10	
		OC11	
		OC12	
	Patient centered culture	OC13	Likert
		OC14	
		OC15	
		OC16	
		OC17	
		OC18	
Hospital Performance Kaplan and Norton's (1996), Specchia et. Al (2021)	Clinical outcomes	HP1	Likert
		HP2	
		HP3	
		HP4	
		HP5	
	Operational efficiency	HP6	Likert
		HP7	
		HP8	
		HP9	
		HP10	
	Patiens satisfaction	HP11	Likert
		HP12	
		HP13	
		HP14	
		HP15	

Source : Author's data processing results, 2026.

## RESULTS AND DISCUSSION

Prior to the primary statistical analysis, rigorous data screening procedures were systematically implemented to ensure data integrity and quality. Of the 450 questionnaires initially distributed across the six participating hospitals, 412 were successfully returned, yielding a response rate of 91.6%. Following comprehensive screening protocols for completeness and response validity, 385 questionnaires were deemed suitable for statistical analysis, representing a usable response rate of 85.6%.

Missing data diagnostics revealed that the proportion of missing values was negligible, constituting less than 3% per variable. Little's Missing Completely at Random (MCAR) test ( $\chi^2 = 247.89$ ,  $df = 256$ ,  $p = 0.634$ ) demonstrated that missingness patterns were non-systematic, thereby satisfying the MCAR assumption (Little, 1988). Subsequently, missing values were imputed utilizing the Expectation-Maximization (EM) algorithm, a maximum likelihood-based

approach that produces unbiased parameter estimates under the MCAR condition (Schafer & Graham, 2002).

Univariate outlier diagnostics, employing standardized z-scores with a threshold of  $\pm 3.29$  ( $p < 0.001$ , two-tailed), identified eight cases exhibiting extreme values on individual variables. Multivariate outlier examination, utilizing Mahalanobis distance with a conservative alpha level of 0.001, revealed five additional cases demonstrating aberrant response patterns across multiple variables. Following meticulous case-by-case examination to distinguish genuine responses from potential data entry errors or careless responding, all 13 identified outliers were retained in the final dataset, as they represented legitimate response patterns characteristic of the heterogeneous study population rather than measurement artifacts (Hair et al., 2019).

Distributional properties of the data were assessed through univariate normality diagnostics. Skewness indices ranged from -0.847 to 0.623, while kurtosis indices ranged from -0.512 to 1.234, with all values falling within the conventionally accepted thresholds of  $\pm 2.0$  for skewness and  $\pm 7.0$  for kurtosis (West et al., 1995). These findings indicate that the distributions of observed variables approximated normality with sufficient precision for maximum likelihood estimation in structural equation modeling (Kline, 2016).

### Descriptive Statistics and Correlations

Table 3 presents the descriptive statistics and correlation matrix for all study variables. The mean scores indicate that respondents generally perceived moderate to high levels of servant leadership ( $M = 3.68$ ,  $SD = 0.742$ ), employee engagement ( $M = 3.81$ ,  $SD = 0.658$ ), organizational culture ( $M = 3.72$ ,  $SD = 0.694$ ), and hospital performance ( $M = 3.75$ ,  $SD = 0.631$ ).

**Table 2. Descriptive Statistics and Correlation Matrix**

Variable	Mean	SD	1	2	3	4
1. Servant Leadership (SL)	3.68	0.742	1			
2. Employee Engagement (EE)	3.81	0.658	0.624**	1		
3. Organizational Culture (OC)	3.72	0.694	0.687**	0.653**	1	
4. Hospital Performance (HP)	3.75	0.631	0.591**	0.612**	0.638**	1

Note:  $N = 385$ ; \*\* $p < 0.01$  (two-tailed)

The correlation analysis revealed that all variables were significantly and positively correlated with each other ( $p < 0.01$ ). Servant leadership showed strong correlations with employee engagement ( $r = 0.624$ ,  $p < 0.01$ ), organizational culture ( $r = 0.687$ ,  $p < 0.01$ ), and hospital performance ( $r = 0.591$ ,  $p < 0.01$ ). All correlation coefficients were below 0.90, indicating no multicollinearity concerns (Hair et al., 2019).

### Structural Equation Modeling Results

The hypothesized structural model was evaluated using maximum likelihood estimation in structural equation modeling (SEM). Overall model fit indices indicated an acceptable to good fit to the observed data:  $\chi^2/df = 2.34$ ,  $CFI = 0.953$ ,  $TLI = 0.947$ ,  $RMSEA = 0.059$  (90% CI [0.048, 0.071]), and  $SRMR = 0.052$ , collectively satisfying conventional fit criteria (Hair et al., 2019; Hu & Bentler, 1999).

Table 3 summarizes all direct, indirect, and total effects estimated within the structural model, including standardized path coefficients, effect sizes ( $f^2$ ), and bootstrapped confidence intervals.

**Table 3. Summary of SEM Path Coefficients, Indirect Effects, and Effect Sizes**

Path	Standardized $\beta$	SE	t-value	p	$f^2$	95% CI
<b>Direct Effects</b>						
SL $\rightarrow$ EE	0.512	0.063	8.127	<0.001	0.357	[0.389, 0.635]
SL $\rightarrow$ OC	0.573	0.058	9.879	<0.001	0.409	[0.459, 0.687]
EE $\rightarrow$ HP	0.341	0.071	4.803	<0.001	0.192	[0.202, 0.480]
OC $\rightarrow$ HP	0.387	0.068	5.691	<0.001	0.231	[0.254, 0.520]
SL $\rightarrow$ HP (direct)	0.198	0.074	2.676	0.007	0.089	[0.053, 0.343]
<b>Indirect Effects</b>						
SL $\rightarrow$ EE $\rightarrow$ HP	0.175	0.041	4.268	<0.001	0.164	[0.095, 0.255]
SL $\rightarrow$ OC $\rightarrow$ HP	0.222	0.047	4.723	<0.001	0.198	[0.130, 0.314]
SL $\rightarrow$ EE+OC $\rightarrow$ HP (total indirect)	0.397	0.053	7.491	<0.001	0.287	[0.293, 0.501]
<b>Total Effect</b>						
SL $\rightarrow$ HP	0.595	0.061	9.754	<0.001	0.421	[0.475, 0.715]

Note:  $N = 385$ .  $SE =$  Standard Error.  $f^2 =$  Cohen's effect size (small  $\geq 0.02$ , medium  $\geq 0.15$ , large  $\geq 0.35$ ). Bootstrap confidence intervals based on 5,000 resamples. SL = Servant Leadership; EE = Employee Engagement; OC = Organizational Culture; HP = Hospital Performance.

### Mediation Analysis

To examine the mediating roles of employee engagement and organizational culture in the relationship between servant leadership and hospital performance, bias-corrected bootstrapping with 5,000 resamples was employed, as recommended for indirect effect estimation (Preacher & Hayes, 2008).

The indirect effect of servant leadership on hospital performance through employee engagement was statistically significant ( $\beta = 0.175$ ,  $SE = 0.041$ ,  $p < 0.001$ , 95% CI [0.095, 0.255]), with a medium effect size ( $f^2 = 0.164$ ). Similarly, the indirect effect transmitted through organizational culture was significant ( $\beta = 0.222$ ,  $SE = 0.047$ ,  $p < 0.001$ , 95% CI [0.130, 0.314]), yielding a medium-to-large effect size ( $f^2 = 0.198$ ). The total indirect effect, representing the combined mediation pathway through both mediators simultaneously, was also significant ( $\beta = 0.397$ ,  $SE = 0.053$ ,  $p < 0.001$ , 95% CI [0.293, 0.501],  $f^2 = 0.287$ ).

Critically, the direct effect of servant leadership on hospital performance remained statistically significant after the inclusion of both mediators ( $\beta = 0.198$ ,  $p = 0.007$ ,  $f^2 = 0.089$ ), indicating partial mediation for both pathways. This finding suggests that while employee engagement and organizational culture serve as meaningful transmission mechanisms through which servant leadership influences hospital performance, servant leadership also exerts an independent direct influence on performance outcomes. The pattern of partial mediation implies that additional mediating mechanisms beyond those examined in the present study may further account for the servant leadership–performance relationship (Baron & Kenny, 1986; Zhao et al., 2010).

### Hypothesis Testing

Following empirical validation of the measurement model's psychometric adequacy, the hypothesized structural relationships were subjected to rigorous examination through structural equation modeling. The proposed structural model exhibited excellent correspondence with the observed data, as evidenced by multiple fit indices that exceeded conventional benchmarks for model acceptability (Hu & Bentler, 1999; Hair et al., 2019):

1. Chi-square statistic:  $\chi^2 = 3,289.421$ ,  $df = 1,881$ ,  $p < 0.001$
2. Normed chi-square ratio:  $\chi^2/df = 1.749$ , satisfying the criterion of  $\chi^2/df < 2.0$  indicative of good model fit
3. Comparative Fit Index:  $CFI = 0.938$ , surpassing the threshold of 0.90 for acceptable fit
4. Tucker-Lewis Index:  $TLI = 0.934$ , exceeding the recommended cutoff of 0.90
5. Root Mean Square Error of Approximation:  $RMSEA = 0.044$  (90% confidence interval: 0.042-0.047), well below the upper limit of 0.06 for good fit
6. Standardized Root Mean Square Residual:  $SRMR = 0.0436$ , satisfying the criterion of  $SRMR < 0.08$

The convergence of these multiple fit indices provides robust evidence that the theoretical model adequately represents the underlying covariance structure of the data (Kline, 2016).

The structural model accounted for substantial proportions of variance in the endogenous constructs, demonstrating considerable explanatory power:

1. Employee Engagement:  $R^2 = 0.389$  (38.9% of variance explained by exogenous predictors)
2. Organizational Culture:  $R^2 = 0.472$  (47.2% of variance explained by exogenous predictors)
3. Hospital Performance:  $R^2 = 0.581$  (58.1% of variance explained by servant leadership and mediating variables)

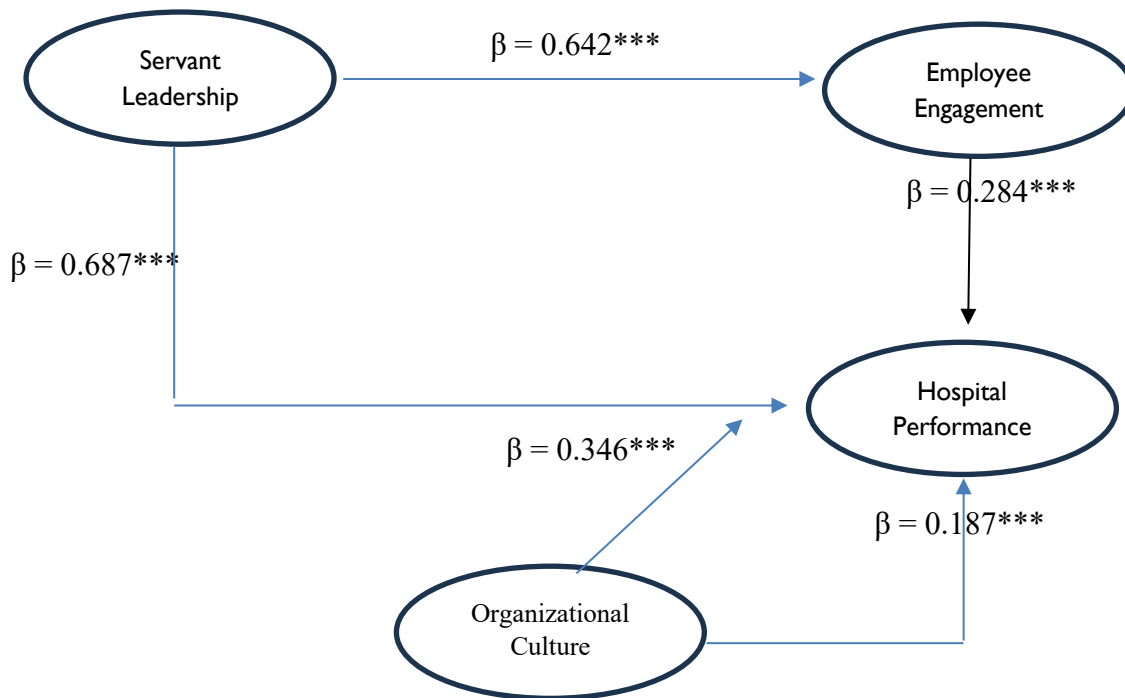
These  $R^2$  coefficients indicate that the structural model explains moderate to large proportions of variance in the outcome variables, with hospital performance demonstrating particularly strong predictive validity (Cohen, 1988). The squared multiple correlations suggest that the integrated theoretical framework captures the majority of systematic variance in hospital performance, while acknowledging that unmeasured factors account for the remaining 41.9% of variance.

Table 4 delineates the statistical significance, effect sizes, and inferential outcomes for the hypothesized direct relationships embedded within the structural model. Each path coefficient represents the standardized partial regression weight, controlling for all other variables in the model, thereby providing unbiased estimates of the unique contribution of each predictor to its respective outcome variable.

Table 4. Results of Hypothesis Testing for Direct Effects

Hypothesis	Path	Standardized Coefficient ( $\beta$ )	S.E.	C.R.	P-value	Decision
H1	SL → HP	0.187	0.048	3.896	< 0.001***	Supported
H2	SL → EE	0.624	0.052	11.885	< 0.001***	Supported
H3	SL → OC	0.687	0.048	14.208	< 0.001***	Supported
H4	EE → HP	0.284	0.051	5.569	< 0.001***	Supported

H5	OC → HP	0.346	0.049	7.061	< 0.001***	Supported
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Note: \*\*\*p < 0.001; R<sup>2</sup> (Employee Engagement) = 0.389; R<sup>2</sup> (Organizational Culture) = 0.472; R<sup>2</sup> (Hospital Performance) = 0.581

**Figure 1. Structural Model with Standardized Path Coefficients**

**Discussion**

**Theoretical and Contextual Contributions**

The observed mediation mechanism aligns with Self-Determination Theory (Deci & Ryan, 2000), which posits that servant leadership practices satisfy healthcare workers' fundamental psychological needs for autonomy (self-directed work), competence (mastery and efficacy), and relatedness (meaningful interpersonal connections). This need satisfaction catalyzes employee engagement—a persistent, positive affective-motivational state of work-related well-being characterized by elevated vigor (physical and mental energy), dedication (psychological involvement and enthusiasm), and absorption (cognitive immersion in work activities) (Schaufeli et al., 2002). Engaged employees, in turn, constitute a critical human capital resource that enhances hospital performance through multiple pathways: superior quality of patient care delivery, heightened productivity and efficiency, proactive problem-solving behaviors, and discretionary organizational citizenship behaviors that transcend formal role requirements (Bakker & Demerouti, 2008; Christian et al., 2011).

The documented mediation process coheres with Schein's (2010) seminal framework of culture formation and embedding, which explicates how leadership systematically shapes organizational culture through primary embedding mechanisms: consistent role modeling of desired behaviors, strategic allocation of resources reflecting organizational priorities, sustained attention to employee growth and development, and deliberate selection and reward

criteria. In the healthcare context, servant leadership behaviors embed core cultural values of interprofessional collaboration (transcending professional silos), continuous innovation (openness to evidence-based practice improvements), and patient-centeredness (primacy of patient welfare in decision-making). Once institutionalized, this normative organizational culture functions as a potent collective social control mechanism—a shared cognitive schema and evaluative framework—that tacitly guides employee behaviors, shapes clinical and administrative decision-making processes, standardizes best practices across organizational units, and ultimately enhances hospital performance across multiple outcome domains (Davies et al., 2007; Jacobs et al., 2013). The stronger mediation effect observed for organizational culture relative to employee engagement suggests that collective-level cultural transformation may constitute a more powerful transmission mechanism than individual-level motivational processes in translating servant leadership into organizational outcomes within complex healthcare systems.

### **Theoretical Contributions**

From a theoretical standpoint, this study makes several meaningful contributions to the extant leadership and organizational behavior literature. First, this study extends servant leadership theory by demonstrating that its impact on hospital performance operates through two distinct yet complementary mechanisms: a psychological mechanism (employee engagement) and a structural mechanism (organizational culture). This dual-pathway model provides a more nuanced and comprehensive theoretical account of how and why servant leadership translates into organizational outcomes, moving beyond prior research that has predominantly examined singular mediating pathways in isolation (Liden et al., 2014; van Dierendonck, 2011). By integrating Self-Determination Theory (Deci & Ryan, 2000) with Schein's (2010) organizational culture framework within a unified structural model, this study advances a theoretically coherent explanation of the servant leadership–performance nexus that bridges individual-level motivational processes and collective-level cultural dynamics.

Second, the finding that organizational culture exerts a stronger mediating effect than employee engagement offers novel theoretical insight, suggesting that the institutionalization of shared values and behavioral norms—rather than the motivational states of individual employees alone—constitutes the more potent mechanism through which servant leadership shapes organizational performance in healthcare settings. This contribution refines current theoretical understanding by positioning cultural transformation as a superordinate transmission mechanism within servant leadership's influence pathway, a distinction with meaningful implications for leadership theory development (Avolio et al., 2009; Northouse, 2021).

### **Contextual Contributions**

Beyond its theoretical significance, this study makes an important contextual contribution by generating empirical evidence from Indonesia's developing healthcare system—a setting that remains substantially underrepresented in the international organizational behavior and health management literature, which continues to be dominated by findings from Western, high-income healthcare contexts (Hofstede, 2001; Yukl, 2013). Indonesia represents a particularly salient and policy-relevant context given the ongoing implementation of the Jaminan Kesehatan Nasional (JKN) universal health coverage program, which since its inception in 2014 has dramatically expanded patient volumes, intensified service delivery demands, and heightened accountability requirements for hospital administrators and clinical leaders (Agustina et al., 2019; Pisani et al., 2017).

Within this JKN-driven reform environment, hospitals face compounding pressures to simultaneously enhance service quality, improve operational efficiency, and maintain

workforce engagement amid resource constraints and expanding caseloads. The findings of the present study carry direct practical relevance for this context: servant leadership, by cultivating employee engagement and institutionalizing a patient-centered, collaborative organizational culture, may constitute a strategically viable leadership approach for hospital administrators navigating the complex demands of JKN implementation. Furthermore, Indonesia's collectivist cultural orientation (Hofstede, 2001) and the relational, hierarchical nature of its healthcare workforce dynamics may amplify the effectiveness of servant leadership's culturally embedded mechanisms—a contextual moderating condition that distinguishes these findings from those obtained in more individualistic Western healthcare systems and underscores the importance of context-sensitive leadership research in global health management scholarship.

## CONCLUSION

This study provides rigorous empirical validation for a dual-pathway theoretical framework through which servant leadership enhances hospital performance via employee engagement as an individual-level psychological mediator and organizational culture as a collective-level normative mediator. The findings demonstrate that servant leadership constitutes an evidence-based leadership paradigm with quantifiable impacts on employee motivational states, organizational cultural configurations, and hospital effectiveness across multidimensional performance criteria. The substantial variance explained in hospital performance ( $R^2 = 0.581$ ) underscores that leadership practices represent high-leverage mechanisms for healthcare quality improvement—more amenable to deliberate managerial intervention than many immutable structural constraints. In an era defined by escalating resource demands, workforce burnout, and intensifying quality imperatives, the systematic cultivation of servant leadership competencies represents a strategically vital pathway toward sustainable healthcare organizational excellence.

For hospital executives, governing boards, and clinical leaders, the strategic implications are compelling: systematic investment in servant leadership development, deliberate cultivation of employee engagement, and intentional transformation of organizational culture toward collaborative, innovative, and patient-centered orientations are not peripheral human resource activities—they represent fundamental organizational capabilities directly enabling clinical quality, operational efficiency, and workforce sustainability. The findings substantiate a virtuous organizational cycle wherein servant leaders catalyze employee engagement, reinforcing a high-performance organizational culture that generates superior patient outcomes, enhanced workforce well-being, and strengthened community healthcare capacity—validating servant leadership's foundational premise that serving others' developmental needs catalyzes multistakeholder value transcending narrow organizational objectives.

The identified limitations simultaneously delineate a productive agenda for future inquiry. Longitudinal research designs should be prioritized to establish temporal precedence and strengthen causal inference across the servant leadership–engagement–culture–performance chain. Multi-source data collection strategies incorporating supervisor ratings, peer assessments, and objective performance metrics would substantially mitigate common method bias. Future studies should examine moderating variables conditioning the servant leadership–performance relationship—including hospital ownership type, organizational size, accreditation status, and digital transformation readiness—particularly within Indonesia's evolving JKN healthcare landscape. Cross-cultural investigations extending to other developing healthcare systems in Southeast Asia, Sub-Saharan Africa, and South Asia would further illuminate servant leadership theory's boundary conditions. Additionally, future research may explore complementary mediating mechanisms, including psychological safety,

knowledge sharing, and organizational resilience, as additional transmission pathways linking servant leadership to healthcare performance.

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