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Strategic leadership, power relations, and institutional performance in public universities: Evidence from multi-stakeholder governance systems

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Research Article

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Abstract

Universities increasingly operate within complex multi-stakeholder governance systems in which leadership effectiveness is shaped by competing interests, authority structures, and institutional power dynamics. Even though strategic leadership is widely associated with institutional performance, not much is known about how power relations within university governance systems condition this relationship, particularly in African higher education contexts. Anchored on Governance Theory, this study examined the interrelationships among strategic leadership, power relations, and institutional performance in public universities in Ghana. Using cross-sectional survey data from 442 academic and administrative staff, Structural Equation Modeling (SEM) was employed to test both direct and mediated relationships among the study constructs. The findings indicate that strategic leadership positively influences institutional performance, while also reshaping internal power relations within university governance structures. Power relations were found to significantly predict institutional performance and partially mediate the relationship between strategic leadership and institutional outcomes. These findings suggest that leadership effectiveness in universities cannot be understood independently of the governance arrangements and power configurations within which leadership is exercised. The study extends higher education governance literature by integrating power relations into leadership–performance models and contributes empirical evidence from an underrepresented African context. The findings further underscore the importance of governance structures that balance institutional authority, stakeholder participation, and strategic coordination in enhancing university performance.

Introduction

Contemporary universities operate within increasingly complex governance environments shaped by massification, managerial reform, stakeholder diversification, and intensifying demands for accountability and institutional performance (Altbach, Reisberg, & Rumbley, 2019; Shattock, 2014). These developments have transformed universities from relatively autonomous professional communities into multi-stakeholder organizations in which authority, influence, and decision-making are distributed across a wide range of actors. Within such contexts, strategic leadership has become central to institutional coordination, strategic adaptation, and organizational performance. However, the effectiveness of strategic leadership in higher education cannot be understood independently of the governance arrangements and power structures within which leadership is exercised.

Higher education governance scholarship increasingly recognizes universities as politically negotiated organizations rather than unitary administrative systems governed through simple hierarchical authority (Clark, 1983; Middlehurst, 2013). Governance processes in universities are shaped not only by formal structures such as governing councils, senates, and executive management, but also by informal relations of influence embedded in professional norms, collegial cultures, stakeholder alliances, and institutional networks. Consequently, strategic leadership in universities involves more than administrative coordination; it requires the capacity to negotiate competing interests, mobilize

institutional actors, and sustain legitimacy across fragmented governance environments (Bolden, Petrov, & Gosling, 2009).

Despite extensive research on leadership and governance in higher education, comparatively limited attention has been paid to how power relations shape the relationship between strategic leadership and institutional performance. Existing leadership research has frequently emphasized leadership styles, managerial effectiveness, or organizational outcomes without sufficiently examining the underlying distribution of authority and influence through which leadership operates (Bolden et al., 2015). However, governance theory suggests that institutional outcomes are fundamentally shaped by how power is negotiated, exercised, and contested within governance systems (Pfeffer, 2010). In university settings, influence may derive from formal authority, professional expertise, control over resources, political networks, or institutional legitimacy. These power configurations shape participation in strategic decision-making, resource allocation, and policy implementation, all of which are central to institutional performance.

The relationship between leadership and power is particularly significant in public universities within developing higher education systems, where governance arrangements frequently combine elements of state regulation, collegial traditions, and managerial reforms. Across many African higher education systems, universities operate within governance environments characterized by overlapping authority structures, evolving accountability regimes, and tensions between institutional autonomy and state oversight (World Bank, 2017). In Ghana, public universities exemplify these dynamics through governance systems in which statutory authority coexists with strong professional cultures and expanding stakeholder expectations. Such governance configurations create conditions in which formal leadership authority does not necessarily correspond with institutional influence, making power relations a critical dimension of strategic leadership effectiveness.

While strategic leadership is widely regarded as essential for institutional performance, leadership effectiveness is often conditioned by underlying power dynamics within multi-stakeholder governance systems. Concentrated power may weaken institutional participation and legitimacy, while excessively fragmented authority may undermine strategic coherence and effective decision-making (Mintzberg, 2009; Pfeffer, 2010). Understanding how these governance dynamics shape institutional performance is increasingly important as universities face growing pressure to improve efficiency, responsiveness, and organizational outcomes within complex governance environments.

Empirically, limited research has systematically examined the interrelationships among strategic leadership, power relations, and institutional performance within higher education governance systems, particularly in African contexts. This limitation reflects a broader tendency within higher education leadership research to treat governance structures as administrative contexts rather than as relational systems of power that actively shape institutional outcomes. To address this gap, the present study employed Structural Equation Modeling (SEM) to examine both direct and mediated relationships among strategic leadership, power relations, and institutional performance in public universities in Ghana. SEM

provides an analytical framework capable of modelling complex relationships among multidimensional latent constructs while accounting for measurement error (Hair et al., 2019; Kline, 2016).

By integrating governance theory with an SEM-based analysis of leadership and power, this study contributes to higher education scholarship in three ways. First, it foregrounds power relations as a central explanatory dimension in understanding institutional performance within university governance systems. Second, it extends leadership research by demonstrating how governance arrangements condition leadership effectiveness in multi-stakeholder university environments. Third, it contributes empirical evidence from an underrepresented African higher education context to broader international debates on university governance, leadership, and institutional performance.

Purpose of the Study

This study sought to determine how strategic leadership shapes institutional performance and power relations in a multi-stakeholder university governance system in Ghana.

Hypotheses.

The study sought to address the following hypotheses

1. H_1: Strategic leadership has a positive and significant effect on institutional performance in public universities.
2. H_2: Strategic leadership has a significant effect on power relations within university governance systems.
3. H_3: Power relations have a significant effect on institutional performance in public universities.
4. H_4: Power relations mediate the relationship between strategic leadership and institutional performance.

Theoretical Framework

This study is grounded in Governance Theory, which conceptualizes universities as complex, multi-stakeholder institutions in which authority, decision-making, and institutional coordination are negotiated across interconnected actors and governance structures (Pierre & Peters, 2000; Bevir, 2012). Rather than viewing universities as hierarchical bureaucracies governed through centralized authority, governance theory emphasizes distributed power, interdependence, and relational forms of influence embedded within both formal and informal institutional arrangements.

Within higher education systems, governance processes are shaped by ongoing tensions between managerial authority, collegial participation, institutional autonomy, and stakeholder accountability (Clark, 1983; Shattock, 2014). Consequently, strategic leadership effectiveness depends not only on

formal administrative authority but also on the capacity to negotiate competing interests, mobilize institutional actors, and sustain legitimacy within fragmented governance environments.

Governance theory further suggests that institutional performance is shaped by how power is distributed and exercised within governance systems. This perspective provides an important corrective to leadership approaches that under-theorize governance power relations in explaining institutional outcomes. The theory therefore offers an appropriate framework for examining how power relations mediate the relationship between strategic leadership and institutional performance in public universities.

Conceptual review

Strategic leadership in higher education refers to the capacity of institutional leaders to shape organizational direction, coordinate stakeholders, and sustain long-term institutional performance within complex governance environments (Rowe, 2001; Rowley & Sherman, 2003). In universities, leadership extends beyond administrative control to include negotiation, consensus-building, and strategic coordination across collegial and managerial structures (Bolden, Petrov, & Gosling, 2009). Its effectiveness is therefore closely linked to governance relationships and institutional legitimacy.

Power relations refer to the distribution and exercise of influence among actors within university governance systems (Pfeffer, 2010). In higher education, power operates through both formal authority structures and informal networks rooted in professional expertise, institutional status, and stakeholder alliances (Clark, 1983). Because universities are characterized by fragmented and negotiated authority, governance outcomes are shaped by how competing interests are managed and coordinated (Mintzberg, 2009).

Institutional performance refers to the extent to which universities effectively achieve their academic, administrative, and strategic objectives, including teaching quality, research productivity, organizational sustainability, and stakeholder responsiveness (Shattock, 2014). Within multi-stakeholder governance systems, institutional performance is strongly influenced by leadership effectiveness, governance coordination, and the alignment between institutional priorities and implementation processes (Altbach et al., 2019).

Conceptual framework

The conceptual framework conceptualizes institutional performance in public universities as shaped by the interaction between strategic leadership and governance power relations within multi-stakeholder university systems. Drawing on Governance Theory, the framework assumes that leadership effectiveness is embedded within institutional governance arrangements rather than exercised through unilateral administrative authority. The conceptual framework is illustrated in Fig. 1.

Conceptual Framework of Strategic Leadership, Power Relations, and Institutional Performance in Public Universities

Strategic leadership is expected to influence institutional performance both directly and indirectly through its capacity to shape governance processes, stakeholder participation, and institutional coordination. Within fragmented governance environments, leaders must negotiate competing interests, mobilize institutional actors, and sustain legitimacy across formal and informal structures of authority. Consequently, strategic leadership also influences the configuration of internal power relations within the university.

Power relations are conceptualized as the distribution and exercise of influence among institutional actors involved in governance and decision-making processes. These relations shape the extent of stakeholder cooperation, strategic coherence, and institutional commitment to policy implementation. More balanced and participatory governance arrangements are expected to strengthen institutional coordination and performance outcomes, while contested or fragmented authority may undermine organizational effectiveness.

The framework therefore positions power relations as a mediating governance mechanism through which strategic leadership influences institutional performance.

Empirical review

Empirical research increasingly suggests that institutional performance in higher education is shaped not only by leadership capacity but also by the governance environments within which leadership operates. Studies across higher education systems consistently associate strategic leadership with improved institutional coordination, organizational adaptability, and performance outcomes (Rowley & Sherman, 2003; Bolden et al., 2009). In universities, strategic leadership involves the articulation of institutional vision, coordination of stakeholder interests, and alignment of academic and administrative priorities. Empirical evidence from the United Kingdom and other European systems indicates that leadership practices emphasizing strategic coordination, inclusive governance, and institutional engagement contribute positively to organizational effectiveness and academic performance (Bolden et al., 2015). Similar findings have been reported in African higher education contexts. For example, studies in Ghana and Kenya demonstrate that strategic leadership enhances policy implementation, institutional coherence, and resource coordination within public universities (Oduro, 2004; Ng'ethe, Namusonge, & Iravo, 2012).

However, emerging scholarship argues that leadership effectiveness in universities is mediated by governance structures and institutional power dynamics rather than determined solely by managerial capability. Research on higher education governance increasingly conceptualizes universities as negotiated institutional systems characterized by distributed authority and competing stakeholder interests (De Boer, Enders, & Schimank, 2007). Empirical studies show that leadership practices

significantly influence participation in governance processes, patterns of authority, and stakeholder legitimacy. Kezar and Eckel (2004), for instance, found that strategic leaders who fostered participatory decision-making and stakeholder engagement were more successful in securing institutional support for organizational change. Similarly, studies within African public universities indicate that consultative leadership practices strengthen perceptions of procedural fairness, trust, and inclusion in governance processes (Agyeman, 2018).

The relationship between power relations and institutional performance has also received growing empirical attention. Research consistently demonstrates that governance systems characterized by balanced participation, transparency, and collaborative decision-making are associated with stronger organizational outcomes (Shattock, 2014; Pfeffer, 2010). Conversely, centralized or exclusionary governance arrangements often contribute to institutional conflict, weak strategic implementation, and reduced organizational commitment. Bryman (2007) reported that participatory governance structures within academic departments were positively associated with staff commitment and performance, while Ramsden (1998) found that exclusionary governance practices weakened institutional effectiveness in universities. Within African higher education systems, governance-related power imbalances have similarly been linked to administrative inefficiencies, weakened institutional legitimacy, and tensions between managerial authority and collegial participation (Effah, 2003; Ayee, 2011).

Although these studies establish important relationships among leadership, governance, and institutional outcomes, relatively few have empirically examined how power relations mediate the relationship between strategic leadership and institutional performance. Existing evidence nevertheless suggests that leadership effectiveness depends substantially on the capacity to manage governance relationships and negotiate stakeholder influence within complex institutional environments (Kezar, 2014). Studies of organizational change in public-sector institutions further indicate that leadership outcomes are frequently mediated by internal governance processes such as participation, legitimacy, and decision authority (Fernandez & Rainey, 2006). In higher education contexts, Bolden et al. (2015) similarly observed that leadership initiatives translated into institutional performance gains primarily where governance arrangements facilitated broad institutional engagement and implementation support.

Despite growing scholarship on university governance and leadership, important empirical gaps remain. Much of the existing literature examines leadership, governance, or institutional performance independently rather than as interrelated governance processes. Furthermore, relatively limited research within African higher education contexts has employed integrated analytical models capable of simultaneously examining direct and mediated relationships among these constructs. The limited application of Structural Equation Modeling (SEM) in this area also constrains understanding of how governance power dynamics condition leadership effectiveness and institutional performance. This study addresses these gaps by examining the interrelationships among strategic leadership, power relations, and institutional performance in public universities in Ghana using SEM.

Methodology

Research design

This study adopted a descriptive cross-sectional survey design to examine the relationships among strategic leadership, power relations, and institutional performance within Ghana's multi-stakeholder university governance system. The design involves collecting data at a single point in time from a defined population, enabling the assessment of prevailing conditions and relationships among variables without manipulating the study environment. It was considered appropriate because the study sought to analyse existing governance dynamics rather than establish causality through experimental control.

The design is grounded in the positivist paradigm, which emphasizes objectivity, quantification, and the testing of theoretical propositions through observable data. Within this framework, social reality is assumed to be measurable, and knowledge is generated through systematic data collection and statistical analysis. Given the study's focus on measurable constructs—strategic leadership, institutional performance, and power relations—the survey approach provided a structured means of gathering standardized data from academic staff, administrators, and governance actors.

Descriptive cross-sectional surveys are well suited for examining relationships among variables and enabling generalization to larger populations. Consistent with Cohen, Manion, and Morrison (2007), the design allows systematic description and comparison of perceptions across institutional actors. Overall, the approach provided a rigorous and efficient framework for analysing governance dynamics in public universities in Ghana.

Research method

The study adopted a quantitative research method grounded in the positivist paradigm to examine the relationships among strategic leadership, institutional performance, and power relations within a multi-stakeholder university governance system in Ghana. The quantitative approach was appropriate because it emphasizes objectivity, measurement, and statistical analysis in testing theoretically derived propositions (Creswell, 2014). Constructs were operationalized into measurable variables and data were collected using structured questionnaires with closed-ended, Likert-scale items to ensure standardization, reliability, and comparability across stakeholder groups.

Consistent with survey research traditions, the method enabled the systematic collection and analysis of data from multiple respondents at a single point in time, thereby facilitating the examination of patterns and associations among variables (Cohen, Manion, & Morrison, 2007). Descriptive and inferential statistical techniques were employed to summarize trends and test hypothesized relationships. Overall, the quantitative method ensured methodological rigor, analytical precision, and alignment with the study's objective of generating empirically verifiable evidence on governance dynamics in Ghanaian public universities.

Population and sample

The population of the study comprised all staff of public universities in Ghana. According to official figures from the various universities, the total staff population across the sixteen (16) public universities is approximately 57,408.

For analytical and sampling purposes, the universities were grouped into two geographic clusters, namely the Southern Zone and the Northern Zone. Within each zone, the universities were further classified by size based on the total number of staff. Universities with staff populations below 3,500 were categorized as small, while those with staff populations above 3,500 were classified as large.

To ensure fair representation of both geographic zones and institutional sizes, the study employed a simple random sampling technique to select two universities from each zone, specifically, one large and one small university per zone. This stratified approach ensured a balanced inclusion of institutions that reflect the structural diversity of Ghana's higher education system.

The choice of this sampling strategy was guided by both methodological and practical considerations. Stratifying the universities by zone captures regional variations in governance culture and administrative regulation, while the classification by institutional size accounts for organizational complexity and resource differences.

Selecting one large and one small university per zone provides a representative and comparative framework for examining how strategic leadership and power relations, shape institutional performance in public universities in diverse institutional contexts. Moreover, given logistical and financial constraints, limiting the selection to four universities ensured the study remained feasible while still yielding meaningful cross-sectional insights into the dynamics of academic values within Ghana's public university system.

With a total population of 57,408 staff across the sixteen public universities, it was necessary to determine an appropriate sample size that would yield statistically valid and generalizable results. The Yamane (1967) formula for sample size determination for finite populations was used:

$n = N / (1 + N (e^2))$

Where:

- • n = desired sample size
- • N = population size
- • e = level of precision (margin of error)

Using a 5% margin of error (e = 0.05) at a 95% confidence level, the required minimum sample size was calculated as follows:

n = 57,408 / (1 + 57,408 * 0.052)

n = 57,408 / (1 + 57,408 * 0.0025)

n = 57,408 / (1 + 143.52)

n = 57,408 / 144.52

n ≈ 398

To account for potential non-response, the sample size was adjusted by 10%, resulting in an adjusted sample size of approximately 442 respondents.

Adjusted n = 398 / 0.9 ≈ 442

Given that the study selected four universities (two from the Southern Zone and two from the Northern Zone), the total sample was allocated proportionally to the staff population of each university to ensure representativeness. For example, if the selected universities had staff populations of University of Ghana (6,565), Kwame Nkrumah University of Science & Technology (5,831), University for Development Studies (3,924), and C. K. Tedam University of Technology and Applied Sciences (380), the proportional sample allocation would be approximately 171, 152, 102, and 18 respondents, respectively. Within each university, the sample was further stratified by staff category (academic, administrative, support) to reflect the internal staff composition accurately.

This sampling strategy ensures that the study captures the perspectives of staff across different geographic zones and institutional sizes while maintaining methodological rigor and statistical validity.

Data gathering instrument

The researcher employed a structured questionnaire as the primary instrument for data collection in this study. The questionnaire items were adapted from previously validated scales in the literature to ensure content validity and alignment with the constructs under investigation. Specifically, measures of strategic leadership were adapted from the works of Rowley and Sherman (2003) as well as Davies and Davies (2004). Items relating to power relations were derived from the work of Pfeffer (2010). Measures of governance and shared governance in universities were informed by the contributions of Shattock (2014) and Kezar (2004), while items measuring institutional performance were adapted from the organizational effectiveness framework developed by Cameron and Quinn (2011).

The questionnaire consisted of six sections labelled A to F. Section A contained items designed to collect demographic information about the respondents, including gender, age, educational qualification, and years of professional experience. Section B comprised five items measuring strategic leadership within the university context. Section C contained six items assessing power relations among stakeholders in the university governance system. Section D consisted of five items measuring strategic alignment within the institution. Section E included four items that examined the processes of resource

allocation within the university, while Section F comprised five items measuring institutional performance.

All items in Sections B to F were measured using a five-point Likert-type scale to capture respondents' perceptions. The response options ranged from Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), to Strongly Agree (5). The Likert scale was adopted because it enables respondents to express the degree of agreement with statements and is widely used in social science research for measuring attitudes, perceptions, and opinions in a systematic and quantifiable manner.

Validity and reliability of the instrument

The validity and reliability of the research instrument were established through multiple procedures to ensure the rigor of the measurement model. Questionnaire items were adapted from previously validated scales in the literature on strategic leadership, governance, power relations, and institutional performance. To strengthen content validity, the instrument was reviewed by experts in higher education administration and research methodology for clarity, relevance, and alignment with the study objectives.

Construct validity was assessed through exploratory and confirmatory factor analyses using pilot data obtained from 410 respondents drawn from two technical universities with characteristics comparable to the institutions included in the main study. Sampling adequacy for factor analysis was evaluated using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's Test of Sphericity. Acceptable KMO values and significant Bartlett's test results confirmed the suitability of the data for factor extraction (Hair et al., 2019).

Convergent validity was examined using standardized factor loadings, Composite Reliability (CR), and Average Variance Extracted (AVE). Factor loadings above .50, CR values exceeding .70, and AVE values above .50 indicated satisfactory convergent validity and internal consistency (Fornell & Larcker, 1981; Hair et al., 2019). Discriminant validity was assessed using the Fornell–Larcker criterion, whereby the square root of the AVE for each construct exceeded its correlations with other constructs, confirming construct distinctiveness.

Reliability was further evaluated using Cronbach's alpha coefficients, with values above .70 indicating acceptable internal consistency. Confirmatory Factor Analysis (CFA) was subsequently conducted to validate the measurement model. Model adequacy was assessed using multiple goodness-of-fit indices, including the Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and chi-square/degrees of freedom ratio (χ^2/df), based on established SEM benchmark criteria (Kline, 2016; Hair et al., 2019).

Data collection procedures

Data collection for this study was conducted systematically to ensure ethical compliance and high response rates. An introduction letter was obtained from the Registrar of C. K. Tedam University of Technology and Applied Sciences to formally introduce the researcher to the selected universities. In

addition, necessary ethical clearance and institutional permissions were obtained from the relevant authorities prior to the commencement of data collection.

The questionnaires were personally administered by hand to the staff members. Completed questionnaires were retrieved on the same day when possible. For respondents who could not complete the questionnaire immediately, the instruments were left in the care of designated contact persons and collected one week later. The entire data collection process was completed over a period of six weeks.

Overall, a total of 435 completed questionnaires were returned, representing a response rate of 96.8%, which indicates a high level of cooperation and engagement among the respondents.

Data processing and analysis

The researcher coded the collected data and entered them into SPSS software version 25.0. Structural equation Modeling (SEM) was performed to validate the items on the instrument with the help of AMOS software. SEM is a second generational multivariate technique that is well suited for testing various hypothesized or proposed relationships between variables. SEM enables an explicit modeling of measurement error in order to obtain unbiased estimates of the relationship between variables. This allows researchers to remove the measurement errors from the correlations/regression estimates. This is conceptually the same as correcting for measurement error where measurement error is taken into account (Khine, 2013).

Thus, hypotheses 1 to 3 were tested individually using SEM path analysis with 5000 bootraps samples with bias corrected accelerated confidence interval. The bootstrap results were interpreted in terms of confidence intervals. For a particular result to be significant, the bootstrap upper and lower confidence interval should not contain ‘0’ thus, both the upper and lower confidence intervals should be of the same sign (+ + or - -). This means the confidence interval does not include ‘0’ which means the regression coefficient cannot be ‘0’.

Hypothesis 4

was tested using simple mediation model of the process with 500 bootstrap samples to estimate the indirect effects. Bootstrapping is widely recommended in mediation analysis because it does not rely on the assumption of normality in the sampling distribution of the indirect effect and provides more robust confidence intervals for assessing mediation effects.

Results and Discussion

Results of validity and reliability tests

The researcher examined the instrument validity through exploratory factor analysis with the use of data obtained from 410 respondents drawn from two technical universities. The suitability of the data for

factor analysis was initially examined using the Determinant, Kaiser–Meyer–Olkin (KMO) measure, Bartlett's Test of Sphericity, the anti-image correlation matrix and communalities.

The analysis found the Determinant of the correlation matrix to be 1.346E-7, which is above the recommended minimum threshold of .00001, suggesting the absence of serious multicollinearity among the variables (Field, 2018). The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was .757, significantly above the recommended minimum threshold of .60, indicating that the pattern of correlations among the variables was sufficiently compact to justify factor analysis (Kaiser, 1974; Tabachnick & Fidell, 2019). The analysis further found that Bartlett's Test of Sphericity was statistically significant, $\chi^2(171) = 6325.88$, $p < .001$, indicating that the correlation matrix was not an identity matrix and that the variables were sufficiently correlated to allow meaningful factor extraction (Hair et al., 2019).

The researcher examined the anti-image correlation matrix to ascertain the Measure of Sampling Adequacy (MSA) for each variable. The anti-image correlation matrix indicated that all variables had Measures of Sampling Adequacy (MSA) above the acceptable threshold of .50, with values ranging from .577 to .947. This suggests that all items were suitable for inclusion in the factor analysis, and no variables were removed. The majority of items had communalities above 0.50, although a few items (e.g., SA5, SA1, and IP5) showed relatively low values, suggesting weaker representation.

Based on the factorability of the data as demonstrated in the analysis, the researcher proceeded to conduct an exploratory factor analysis (EFA) to examine the underlying latent structure of the survey items. Principal Axis Factoring (PAF) was used as the extraction method, with oblim rotation and Kaiser Normalization, allowing for correlations among the factors, consistent with the theoretical expectation that constructs in higher education governance are interrelated.

The researcher retained five factors based on eigenvalues greater than 1. These factors together explained 65.20% of the total variance after extraction. Individually, Factor 1 accounted for 18.23%, Factor 2 15.95%, Factor 3 13.66%, Factor 4 11.05%, and Factor 5 6.30% of the variance. Rotation redistributed the variance among factors, with rotated sums of squared loadings ranging from 1.991 to 3.183, reflecting moderate correlations among the factors.

Examination of the structure matrix indicated that most items loaded primarily on a single factor, with factor loadings ranging from .50 to .954, exceeding the recommended threshold of .40 (Hair et al., 2019). Some items exhibited cross-loadings (e.g., PR3 on Factors 1, 2, and 3; IP1 on Factors 1 and 5), which were retained due to their theoretical relevance. Item SL3 (leadership communicates strategic goals effectively), item PR5 (some groups have more influence than their formal roles suggest), item PR4, (conflicts between internal groups delay strategic decisions), item SA5 (operational activities support long term institutional goals), item IP1 (the university has not improved its overall performance in recent years), and item IP2 (research productivity has not increased) were removed because they each had a loading of less than .50.

Overall, the factor structure demonstrated construct validity, and the oblique rotation confirmed that the factors were moderately correlated, consistent with expectations for interdependent governance constructs in public universities. The 17-item, 5-factor model is presented in Table 1.

Table 1
Factor Loadings

Item	Factor 1 Strategic Leadership	Factor 2 Power Relations	Factor 3 Strategic Alignment	Factor 4 Resource Allocation	Factor 5 Institutional Performance
SL1	.731				
SL2	.976				
SL4	.974				
PR1		.832			
PR2		.854			
PR3	.-365	.575			.-359
SA1			.586		
SA2			.657		
SA3			.713		
SA4			.835		
RA3					
RA1				.778	
RA				.937	
RA3				.828	
IP3					.822
IP4					.872
IP5					.845

Assessment of the measurement model

The measurement model was evaluated using confirmatory factor analysis (CFA) in AMOS to assess the adequacy of the latent constructs following recommended thresholds in the literature (Hu & Bentler, 1999; Kline, 2016; Hair et al., 2019). Model fit was examined using multiple fit indices, including absolute, incremental, and parsimonious measures.

The chi-square statistic for the model was significant ($\chi^2 = 392.567$, df = 94, $p < .001$), indicating a lack of perfect fit. However, given the sensitivity of the chi-square statistic to sample size, the normed chi-square ($\chi^2/df = 4.176$) was considered, which falls within the acceptable threshold (≤ 5.0), suggesting a reasonable fit of the model to the data.

Further evaluation using incremental fit indices indicated good model fit. The Normed Fit Index (NFI = .925), Relative Fit Index (RFI = .904), Incremental Fit Index (IFI = .942), Tucker–Lewis Index (TLI = .925), and Comparative Fit Index (CFI = .941) all exceeded the recommended threshold of 0.90, demonstrating that the proposed model provides a substantial improvement over the independence model.

The Root Mean Square Error of Approximation (RMSEA) was .088, with a 90% confidence interval ranging from .079 to .097. This value indicates a marginal fit, slightly exceeding the commonly recommended cutoff of 0.08. Additionally, the PCLOSE value (.000) suggests that the model does not achieve a close fit. Despite this, the RMSEA value remains within the acceptable upper limit of 0.10, indicating that the model fit is tolerable. The Measurement model is graphically presented in Fig. 2.

Measurement model of strategic leadership, power relations, and institutional

performance in public universities

Overall, the results suggest that the measurement model demonstrates acceptable but not optimal fit. While the incremental fit indices indicate strong model performance, the RMSEA and chi-square results suggest that some model refinement may be beneficial. Nevertheless, the model is deemed adequate for further analysis, including the assessment of convergent and discriminant validity and subsequent structural model evaluation.

Convergent validity and composite reliability test results

The researcher conducted convergent validity test using standardized factor loadings, composite reliability (CR), and average variance extracted (AVE). The results of the test suggested that all constructs achieved acceptable levels of convergent validity. The composite reliability values ranged from 0.740 to 0.919, exceeding the recommended threshold of 0.70. In the same vein, the AVE values ranged from 0.536 to 0.777, exceeding the minimum criterion of 0.50 (Fornell & Larcker, 1981; Hair et al., 2019). While one item under Institutional Performance exhibited a relatively low factor loading (0.474), it was retained as the overall AVE and CR for the construct remained within acceptable limits. Additionally, a few standardized loadings slightly surpassed 1.0, indicating potential estimation issues (Heywood cases), which may serve as a limitation of the study. The results are presented in Table 2.

Table 2
Results of convergent validity and composite reliability test

Construct	Standardized Loadings	Convergent Validity	Composite Reliability
SL1	0.725		
SL2	1.002		
SL4	0.997	0.74	0.94
PR1	0.714		
PR2	0.963		
PR3	0.564	0.63	0.86
RA1	0.780		
RA2	0.697		
RA3	0.927	0.75	0.90
IP3	1.024		
IP4	0.658		
IP5	0.474	0.55	0.78
SA1	0.562		
SA2	0.653		
SA3	0.724		
SA4	0.856	0.64	0.88

Discriminant validity

The researcher conducted discriminant validity of the measurement model by utilizing the Fornell-Larcker criterion. Table 4 presents the square roots of AVE for each construct compared with their inter-construct correlations. The square roots of AVE ranged from 0.707 (Alignment) to 0.917 (Strategic Leadership) and were consistently higher than the correlations with other constructs, indicating satisfactory discriminant validity among the latent variables (Fornell & Larcker, 1981). The results are presented in Table 3.

Table 3
Results of discriminant validity test

Construct	SL	PR	RA	IP	SA
SL	**0.86**				
PR	0.239	**0.79**			
RA	0.020	0.021	**0.87**		
IP	0.309	0.278	0.041	**0.74**	
SA	0.183	0.116	0.068	0.084	**0.80**

The Structural Model and Path Estimates

Following the confirmation of the adequacy of the measurement model, the researcher evaluated the structural model and tested the hypothesized relationships among strategic leadership, power relations, resource allocation strategic alignment and institutional performance. The researcher employed the Structural Equation Modeling (SEM) to estimate the direct, indirect, and total effects among the latent constructs, enabling simultaneous assessment of the proposed causal pathways (Hair Jr. et al., 2019; Kline, 2016). The graphical representation of the Structural Model is presented in Fig. 3.

Graphical representation of the structural model among strategic leadership, power relations, strategic alignment, resource allocation and institutional performance.

Fit indices of the structural model

The overall fit of the structural model was assessed using multiple goodness-of-fit indices, including absolute, incremental, and parsimonious fit measures. The results indicate that the model demonstrates an acceptable to good fit to the data.

The chi-square statistic for the structural model was significant, $\chi^2(94, N = 5000) = 392.567$, $p < .001$, with a normed chi-square (CMIN/DF) of 4.176. Although the chi-square test is significant, this is not uncommon in large samples, as the statistic is highly sensitive to sample size (Kline, 2016). The CMIN/DF value falls within the acceptable threshold (≤ 5), indicating reasonable model fit.

Regarding incremental fit indices, the model shows strong fit: the Comparative Fit Index (CFI = .941), Tucker–Lewis Index (TLI = .925), and Incremental Fit Index (IFI = .942) all exceed the recommended threshold of .90, suggesting good model fit (Hair Jr. et al., 2019). The Normed Fit Index (NFI = .925) and Relative Fit Index (RFI = .904) further support this conclusion, indicating substantial improvement over the independence model.

The Root Mean Square Error of Approximation (RMSEA) was .088, with a 90% confidence interval ranging from .079 to .097 and a PCLOSE value of .000. While the RMSEA slightly exceeds the more stringent cutoff of .08, it remains within the acceptable range for complex models, particularly in large-

sample contexts (Byrne, 2016). The confidence interval suggests a reasonable approximation error, albeit indicating room for minor model improvement.

Overall, the combination of fit indices suggests that the structural model provides an adequate representation of the observed data and is suitable for hypothesis testing. The acceptable fit supports the validity of the estimated structural relationships among strategic leadership, power relations, and institutional performance.

With regard to the path analysis, the model evaluation focused on the magnitude and statistical significance of the path coefficients using unstandardized estimates (B), standard errors (SE), critical ratios (CR), and p-values, while standardized coefficients (β) were used to compare the relative strength of the relationships. Confidence intervals were also examined to assess the precision and robustness of the estimates (Hayes, 2018).The results as presented in Table 4 are in terms of direct effects (H1–H3) and indirect and total effects (H4), providing a rigorous evaluation of the structural relationships underpinning governance dynamics in public universities.

Table 4

Structural Paths among Strategic Leadership, Power Relations, Strategic alignment and Institutional Performance (N = 5000)

Predictor	***Outcome***	***B (Unstd.)***	***SE***	***CR***	***p***	***β (Std.)***	***95% CI (Lower–Upper)***
Strategic Leadership	Institutional Performance	0.411	0.044	9.405	< .001	0.417	[0.324, 0.498]
Strategic Leadership	Power Relations	-0.103	0.025	-4.083	< .001	-0.104	[-0.152, -0.055]
Power Relations	Institutional Performance	0.787	0.122	6.444	< .001	0.720	[0.548, 0.912]
Strategic Alignment	Institutional Performance	-0.179	.073	-2.458	.014	-0.121	[-0.322, -0.037]
Strategic Alignment	Power Relations	-0.051	.039	-1.319	.187	-0.074	[-0.128, 0.026]
Strategic Leadership → Power Relations → Institutional Performance	Indirect effect	-0.081	0.022	3.682	< .001	-0.083	[-0.125, -0.045]
Strategic Leadership → Performance (Total)	Institutional Performance	0.330	0.048	6.875	< .001	0.334	[0.236, 0.424]

Note. *Direct paths reflect hypothesized effects; indirect path reflects mediation through power relations; total effect = direct + indirect. B = unstandardized coefficient; SE = standard error; CR = critical ratio; β = standardized coefficient; CI = 95% confidence interval.*

Hypothesis 1: Strategic Leadership and Institutional Performance

Hypothesis 1

proposed that strategic leadership has a positive and significant effect on institutional performance in public universities. Results from the Structural Equation Modeling (SEM) analysis indicate that strategic leadership has a statistically significant positive effect on institutional performance (β = 0.417, p < .001, 95% CI [0.324, 0.498]). This provides strong empirical support for H1, indicating that higher levels of strategic leadership are associated with improved institutional performance outcomes.

The effect size (β = 0.417) suggests a moderately strong relationship, implying that strategic leadership is a substantive predictor of institutional performance in public universities. In the Ghanaian higher education context, this finding is particularly important given the governance complexity, resource constraints, and increasing accountability pressures facing institutions. It suggests that strategic leadership plays a critical role in enhancing institutional responsiveness, coordination, and overall effectiveness within these constraints.

This result is consistent with Rowley and Sherman (2003), who argue that strategic leadership enhances organizational outcomes through vision articulation and alignment of institutional actors toward shared goals. It also aligns with Oduro (2004), who found that strategic leadership and stakeholder engagement significantly improve institutional effectiveness in Ghanaian universities.

Theoretically, the finding supports leadership and strategic management perspectives that position leadership as a central driver of organizational performance, both directly and through the alignment of institutional processes and goals. It reinforces the view that leadership effectiveness is integral to achieving organizational coherence and performance improvement.

Practically, the result implies that strengthening strategic leadership capacity—particularly in areas such as vision development, decision-making, and stakeholder coordination—may enhance governance effectiveness and institutional performance in public universities.

Hypothesis 2: Strategic Leadership and Power Relations

Hypothesis 2

proposed that strategic leadership significantly influences power relations within university governance systems. The SEM results show that strategic leadership has a statistically significant effect on power relations (β = -0.226, p < .001, 95% CI [-0.152, -0.054]), providing empirical support for H2.

The negative coefficient indicates that stronger strategic leadership is associated with reduced dysfunctional or imbalanced power relations within university governance structures. This suggests that strategic leadership plays a regulating role in shaping how authority and influence are distributed and exercised within public universities.

The finding aligns with leadership and governance perspectives that conceptualize leadership as a structuring force within organizational systems. From this view, leadership shapes decision-making processes, authority distribution, and coordination among institutional actors (Kline, 2016). It also resonates with relational conceptions of power, which view power as embedded in social and institutional interactions that can be reshaped through leadership practices (Foucault, 1980).

In higher education contexts, the result is consistent with evidence that weak or inconsistent leadership tends to intensify internal fragmentation and governance tensions, whereas effective strategic leadership promotes inclusivity, coordination, and more coherent governance arrangements. Fullan

(2014) similarly argues that leadership is central to developing collaborative institutional cultures that reduce conflict and strengthen organizational cohesion.

In the context of public universities in Ghana, the finding is particularly relevant given the presence of complex governance arrangements shaped by multiple stakeholder interests and resource constraints. The result suggests that strategic leadership can help moderate power asymmetries and promote more balanced governance relations, thereby strengthening institutional coordination and governance effectiveness.

Hypothesis 3: Power Relations and Institutional Performance

Hypothesis 3

proposed that power relations have a significant effect on institutional performance in public universities. The SEM results indicate that power relations have a statistically significant positive effect on institutional performance ($\beta = 0.365$, $p < .001$, 95% CI [0.546, 1.028]), providing empirical support for H3.

This finding suggests that the configuration and management of power within university governance systems are important determinants of institutional performance. More functional and balanced power relations appear to enhance coordination, improve decision-making processes, and strengthen overall institutional effectiveness.

The result is consistent with organizational theory perspectives that conceptualize power as an inherent feature of organizational life which, when effectively distributed and managed, can facilitate goal attainment and performance improvement (Pfeffer, 1992). Similarly, Mintzberg (1983) argues that power is not inherently dysfunctional but can be mobilized to support strategic and organizational objectives when appropriately structured within governance systems.

In higher education settings, these dynamics imply that governance arrangements which enable participation, clarify authority relations, and support coordination among stakeholders are more likely to enhance institutional performance. The findings also highlight the importance of balancing competing interests within university governance systems to ensure alignment between institutional goals and implementation processes.

However, the result contrasts with Ramsden (1998), who found that centralized and exclusionary governance structures are associated with lower levels of staff commitment and weaker institutional effectiveness, suggesting that the effects of power may depend on how it is structured and exercised within specific governance contexts.

Practically, the findings underscore the importance for university leaders to promote transparent, inclusive, and well-coordinated governance systems. Poorly managed power struggles may undermine

productivity and institutional effectiveness, whereas well-structured governance relations can strengthen organizational performance.

Hypothesis 4: The Mediating Role of Power Relations

Hypothesis 4

examined whether power relations mediate the relationship between strategic leadership and institutional performance. The SEM results indicate a statistically significant indirect effect of strategic leadership on institutional performance through power relations (B = -0.081, p < .001, 95% CI [-0.125, -0.045]), confirming the presence of partial mediation, given that the direct effect remains significant.

This finding suggests that strategic leadership influences institutional performance through both direct pathways and indirect governance mechanisms. Specifically, strategic leadership shapes institutional outcomes partly by restructuring internal governance dynamics and influencing how power is distributed and exercised within the university system.

The result aligns with contemporary mediation perspectives, which emphasize that organizational relationships are often transmitted through intervening structural and relational mechanisms rather than direct linear effects (Hayes, 2018; Preacher & Hayes, 2008). It also supports broader organizational theory arguments that leadership effects are frequently channeled through internal governance processes that shape coordination, legitimacy, and implementation capacity.

Theoretically, the finding strengthens the argument that power relations are not merely contextual conditions but active governance mechanisms through which leadership exerts influence on institutional outcomes. It reinforces the view that leadership effectiveness in higher education is embedded within relational governance structures and is contingent on how authority and influence are configured within the institution.

Practically, the result implies that leadership development in public universities should extend beyond individual competencies to include the capacity to manage governance relations and reshape internal power structures. Strengthening inclusive governance practices, reducing factional tensions, and promoting collaborative decision-making are therefore essential for enhancing institutional performance.

Taken together, the findings from H1–H4 demonstrate a coherent governance model in which strategic leadership influences institutional performance both directly and indirectly through power relations, underscoring the centrality of governance dynamics in explaining university effectiveness.

Conclusion

This study examined the interrelationships among strategic leadership, power relations, and institutional performance in public universities using Structural Equation Modeling (SEM). The findings demonstrate

that university performance is shaped by an integrated governance system in which leadership and power dynamics are mutually reinforcing rather than operating independently.

Strategic leadership plays a central role in enhancing institutional performance, both by directly improving coordination and stakeholder engagement and by indirectly shaping internal governance conditions. In particular, leadership influences how power is distributed and exercised within university systems, thereby affecting the inclusiveness and functionality of governance processes. Power relations, in turn, significantly contribute to institutional performance, indicating that governance effectiveness depends on the quality of authority distribution and decision-making processes within universities.

The results further show that power relations partially mediate the relationship between strategic leadership and institutional performance, underscoring the importance of governance structures as mechanisms through which leadership effects are transmitted. Overall, the study advances higher education governance scholarship by demonstrating that institutional performance is best understood as the outcome of interconnected leadership and governance processes rather than isolated managerial actions.

By integrating strategic leadership and power relations within a single analytical framework, the study provides a more nuanced explanation of institutional performance in public universities, particularly within complex and resource-constrained higher education environments.

Recommendations

Based on the findings, the study offers the following key recommendations for strengthening governance and institutional performance in public universities:

1. *Strengthening strategic leadership capacity*: Universities should prioritize continuous leadership development programmes that enhance strategic thinking, stakeholder engagement, and evidence-informed decision-making.
2. *Promoting inclusive governance structures*: Institutional policies should support participatory decision-making processes that ensure equitable stakeholder representation and reduce governance-related power imbalances.
3. *Enhancing transparency and accountability*: Clear and enforceable governance frameworks should be strengthened to guide decision-making, regulate the exercise of authority, and minimize conflicts arising from opaque governance practices.
4. *Aligning leadership development with governance realities*: Leadership training programmes should explicitly address power relations, conflict management, and organizational culture change to better equip leaders to manage complex institutional dynamics.

Declarations

Written informed consent was obtained from all participants prior to data collection. The consent information formed an integral part of the introductory section of the questionnaire and clearly explained the purpose of the study, the voluntary nature of participation, the procedures involved, potential risks and benefits, and participants' rights, including the right to withdraw at any stage without penalty. Participants indicated their consent by affirmatively agreeing to participate before proceeding to complete the questionnaire.

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Figures

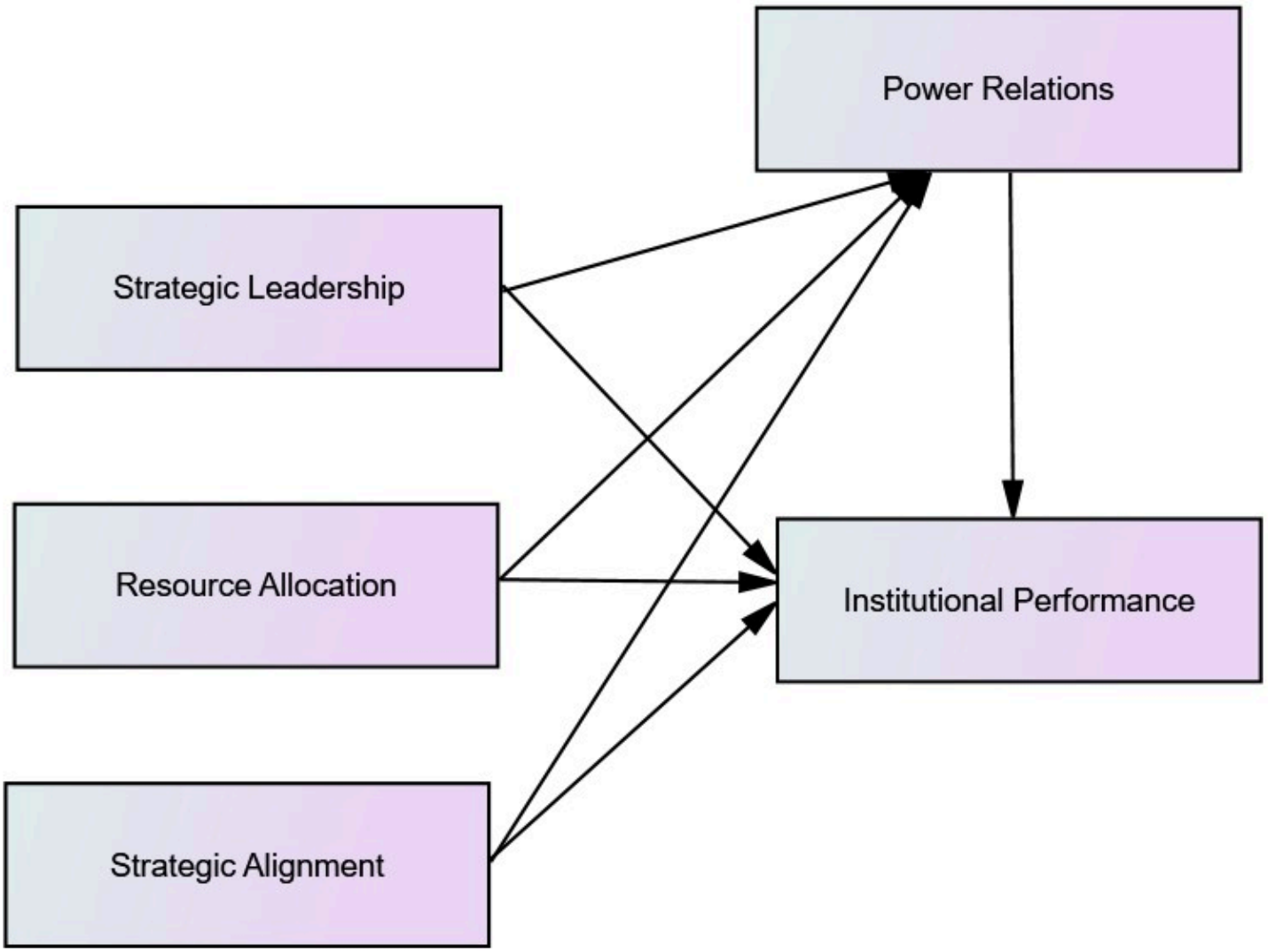


Figure 1

Conceptual Framework of Strategic Leadership, Power Relations, and Institutional Performance in Public Universities

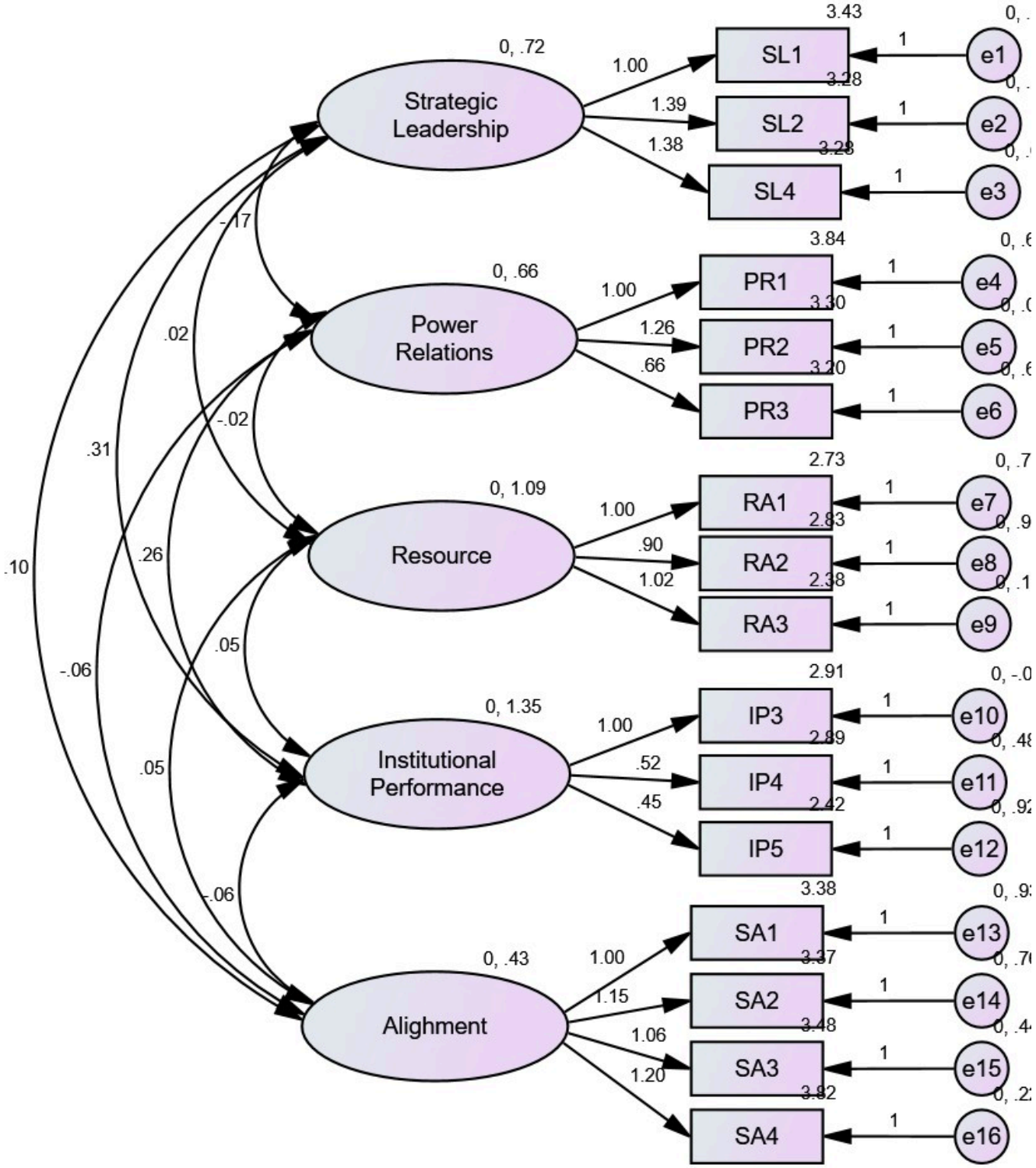


Figure 2

Measurement model of strategic leadership, power relations, and institutional performance in public universities

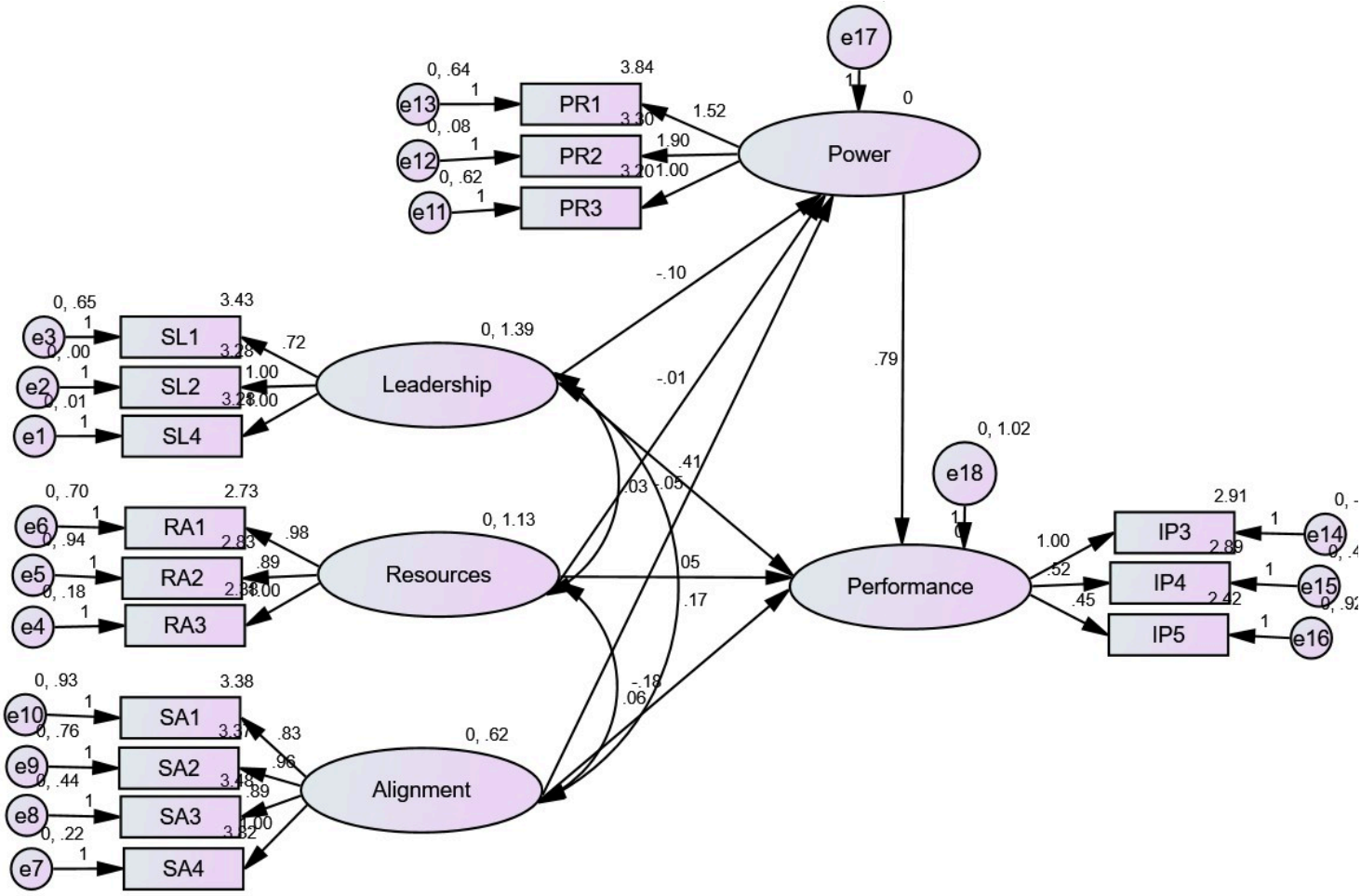


Figure 3

Graphical representation of the structural model among strategic leadership, power relations, strategic alignment, resource allocation and institutional performance.