

Strategic and Distributed Leadership as Complementary Predictors of Holistic School Performance: Evidence from a Geographically Dispersed Small-Island Education System

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Abstract

This study examines how Strategic Leadership Practices (SLP) and Distributed Leadership Practices (DLP) jointly relate to School Performance (SP) in Maldivian secondary schools. It addresses a gap in understanding how these two forms of leadership operate together in a non-Western, geographically dispersed education system, and it treats geographic dispersion and cultural collectivism as boundary conditions that may shape how leadership works. A cross-sectional survey was completed by 372 leadership personnel from 185 schools across all 20 atolls, representing 94.87% of eligible institutions. Data were analysed using a two-step structural equation modelling (SEM) approach in IBM AMOS. Common method bias was assessed using Harman's single-factor test and an unmeasured latent method factor. The measurement model showed acceptable fit (CFI = .944; TLI = .932; IFI = .944; RMSEA = .074), although the chi-square/df ratio (3.031) slightly exceeded the stricter threshold of 3.0. Both SLP ($\beta = .323$) and DLP ($\beta = .413$) significantly predicted school performance ($p < .001$), together explaining 28% of the variance. Both coefficients represent weak-to-moderate direct effects, which is consistent with the largely indirect way in which leadership influences school outcomes. Although the DLP coefficient was numerically larger, a Wald test showed that the difference between the two paths was not statistically significant ($p = .234$). The study contributes an integrated leadership model for a small-island developing context and shows how the Knowledge, Skills, Attitudes, and Values (KSAV) policy framework used in the Maldivian curriculum can be examined empirically using SEM.

Keywords: *Strategic leadership, distributed leadership, school performance, Structural Equation Modeling, small-island developing states.*

INTRODUCTION

Among the organisational factors that shape school effectiveness, leadership is consistently ranked second only to classroom teaching in its influence on student outcomes (Leithwood et al., 2020). Two meta-analyses anchor this claim. Tan et al. (2022), synthesising 12 first-order meta-analyses that covered 512 primary studies, reported a significant positive association between school leadership and student outcomes ($r = .33$). This is a modest association, but it is meaningful because leadership effects are largely indirect: they reach students through intervening school and teacher processes rather than through the leader's direct action (Leithwood et al., 2020). Tan et al. (2021), in a three-level meta-analysis of 493 independent effects from 108 studies, likewise found that leadership practices significantly predicted student outcomes, with a small mean effect ($r = .14$) and effect sizes for individual practices ranging from $r = .10$ to $.26$.

Leithwood et al. (2020) confirmed that these effects are largely indirect, working through teachers' motivation, skills, and working conditions. Multi-level evidence supports this: Kemethofer et al. (2022), using data from 3,785 teachers and 73,780 students across 2,961 Austrian primary schools, found that direction-setting and instructional-management practices influenced student achievement mainly through instructional quality, and that direct effects weakened once student background was taken into account. Earlier reviews had similarly found the direct association between leadership and achievement difficult to detect (Witziers et al., 2003). Because leadership effects are mostly indirect, a direct-effects model such as the one tested here captures only part of a longer causal chain, and the findings should be read with that limitation in mind.

Two frameworks have received the most empirical attention. Strategic leadership emphasises vision-setting, long-term planning, organisational alignment, and the capacity to adapt to a changing environment (Davies & Davies, 2004; Hitt et al., 2007; Rowe, 2001). Distributed leadership treats leadership as a property of group activity that is stretched across the people and situations of the school, rather than as the attribute of a single post-holder (Gronn, 2002; Spillane, 2006). Empirical work supports both. Maqbool et al. (2023), using Pearson correlations with data from 540 teachers in Pakistan, reported a strong positive relationship between diverse leadership styles (including strategic leadership) and sustained academic excellence ($r = .752$). Karakose et al. (2022) and Hallinger and Kulophas (2020) took a different bibliometric approach. Rather than reporting effect sizes, they mapped the intellectual structure of the field. Karakose et al. (2022) analysed 221 articles and traced the movement of distributed-leadership research toward instructional capacity-building, while Hallinger and Kulophas (2020) mapped 793 Scopus-indexed documents from 1960 to 2018, identified three intersecting research streams, and noted a strong geographic concentration of scholarship in Anglo-American and European settings. Mifsud's (2023) systematic review reached a similar conclusion about the field's concentration in Western, English-medium systems.

Despite this productivity, three gaps remain. First, studies that apply strategic and distributed leadership together are rare; most work tests one framework at a time (Özdemir et al., 2023; Tan et al., 2021). Second, where the two have been combined, this has rarely been done in structurally distinctive contexts such as small-island developing states, geographically dispersed systems, or culturally collectivist Muslim-majority settings, precisely the contexts in which the case for integration is strongest (Pont, 2020). Third, school performance has often been reduced to test-score proxies, which hides leadership effects on the broader outcomes that national curricula increasingly target (Lamas, 2015).

The Republic of Maldives is a well-suited setting for this question. It comprises 1,190 coral islands spread across roughly 820 kilometres of ocean, of which 186 are inhabited, making it one of the world's most geographically fragmented inhabited countries (Gagain, 2012; Woodroffe, 2008).

This fragmentation has direct consequences for how education is administered. It creates duplicated infrastructure, a dependence on internationally benchmarked curricula that must be adapted to a culturally distinct Muslim-majority context, and an ongoing decentralisation programme that has shifted authority, though not always capacity, to island and atoll levels. Despite government investment of more than 14% of the national budget (Ministry of Finance and Treasury, 2015) and progressive initiatives such as the 60 Percent Pass Policy (Ministry of Education, 2010) and the holistic orientation of the National Curriculum Framework (National Institute of Education, 2015), secondary outcomes have remained below target. In 2022/23, only 28.73% of candidates passed eight or more subjects (Ministry of Education, 2024), and historical transition rates to higher education have remained low (World Bank, 2012). These figures point to a paradox: substantial public investment coexisting with persistent underperformance, which suggests that the main constraint lies in the organisational mechanisms, including leadership, that turn resources into outcomes.

Two structural features make an integrated view of leadership necessary here. First, geographic dispersion creates the conditions for distributed leadership in practice. Principals cannot be consistently present across several island sites, so much leadership work has to be carried out by middle-tier staff whose contributions shape teaching and professional learning directly (Lipscombe et al., 2021). Thien et al. (2024), drawing on 1,018 Malaysian teachers and using partial least squares and necessary condition analysis, showed that cohesive leadership teams and participative decision-making act as both necessary and sufficient conditions for high teacher commitment to change. Within the Maldives, Fikuree et al. (2021) showed that principal task effectiveness predicts student achievement, and Ahmad and Ali (2021) found that school level moderates the effect of deputy-principal instructional leadership. Second, implementing internationally benchmarked curricula in a culturally distinct setting calls for exactly the kind of strategic adaptation that Cheng (2010) and Davies and Davies (2009) describe, work that, in a dispersed system, must be carried out through distributed authority.

This study therefore addresses three connected gaps: a contextual gap, given the Western concentration of leadership research (Mifsud, 2023; Pont, 2020); a theoretical gap, concerning how strategic and distributed leadership work together within an integrated hybridity framework (Agarwal et al., 2021; Soni et al., 2023); and an empirical and methodological gap, concerning the relationship between leadership and a multidimensional, KSAV-aligned measure of school performance (NIE, 2015).

RESEARCH OBJECTIVES AND RESEARCH QUESTIONS

Given these gaps, the study aims to develop and empirically test an integrated model in which strategic and distributed leadership practices operate as complementary predictors of holistic school performance in Maldivian secondary schools, and to establish whether the constructs, which were developed largely in Western settings, hold up psychometrically in this context. Two research questions guide the analysis:

1. Does the hypothesised measurement model, comprising SLP, DLP, and SP, demonstrate acceptable validity and reliability in the Maldivian secondary education context?
2. What are the direct relationships between SLP, DLP, and SP in Maldivian secondary schools, and how should the relative sizes of these relationships be interpreted given the structural and cultural features of the context?

LITERATURE REVIEW

The Case for an Integrated Leadership Lens

Educational leadership sits at the meeting point of bureaucratic accountability, pedagogical innovation, and cultural meaning (Maxcy, 1991; Sergiovanni, 1983). Single-framework approaches each illuminate one part of this while leaving others in shadow. Transformational leadership remains centred on the leader (Bass & Avolio, 1990; Karakose et al., 2023); instructional leadership treats the principal as the central figure in instruction (Hallinger, 2011); and Upper Echelons Theory lacks the detail needed to explain classroom-level work (Hambrick & Mason, 1984). Studies of hybrid practice reinforce this point. Arthur and Souza (2020), examining Brazilian complementary schools in the UK, found that no single leadership approach worked across all contexts. Effective combinations paired instructional leadership with directive, collaborative, or transformational elements depending on school size and the leader's personality. In Sliwka et al. (2023), surveying 26 schools implementing deeper learning, similarly found that transformational approaches drove whole-school redesign, while transactional approaches confined change to individual classrooms.

This study combines the macro-level, directional focus of strategic leadership with the micro-level, relational focus of distributed leadership. The integration draws on Weick's (1976) idea of loose coupling: the observation that the different parts of a school (its policies and formal structures on one side, and everyday classroom practice on the other) are often only weakly connected, so that a decision taken at one level does not automatically produce change at another. Read through this lens, strategic leadership tightens the link between the school's vision and its structures, while distributed leadership tightens the link between those structures and classroom practice; together they form a chain running from strategic intent to classroom action. The present study tests only the direct paths. The coupling argument is a theoretical explanation for why these paths should exist, not something the current model can demonstrate directly, and designs that test the intervening links are identified as an important next step.

The Measurement Model Hypothesis

Before the structural relationships can be tested meaningfully, the constructs must be shown to behave sensibly in this context. This matters here because the constructs were developed mainly in Western, English-medium settings, which raises the question of whether they are applicable in non-Western contexts (Özdemir et al., 2023). This leads to the first hypothesis:

H₁: The hypothesised measurement model, comprising SLP, DLP, and SP, demonstrates acceptable validity and reliability in the Maldivian secondary education context.

Strategic Leadership Practices: Construct, Evidence, and Hypothesis

Strategic leadership theory places the leader's role at the centre of setting and sustaining organisational purpose through deliberate adaptation to the environment (Hitt et al., 2007; Rowe, 2001). In education, this means keeping a school viable over the long term under shifting policy pressures and resource constraints (Davies & Davies, 2004). Cheng (2010) describes strategic leadership as a response to successive waves of reform, internal, interface, and future leadership, and this typology fits the Maldives well, where pressures from all three waves occur at once. The measurement structure follows Davies and Davies (2004, 2009), who treat strategic leadership as a second-order construct made up of organisational capabilities (strategic orientation, translation, alignment, intervention, and competence) and personal characteristics (restlessness, adaptive capacity, absorptive capacity, and wisdom).

The evidence base is substantial. Tan et al. (2022) and Tan et al. (2021) established positive associations between leadership practice and educational outcomes through meta-analysis. At the school level, Maqbool et al. (2023, 2024) confirmed that strategic leadership predicts academic performance; Sariakin et al. (2025) showed that principals' strategic leadership improves teacher motivation; and Saleem et al. (2020) reported that leadership styles predict teacher job performance. Lee et al. (2024), analysing 1,381 school leaders and administrative data from 269 Florida schools, found that the use of data-informed benchmark assessments was linked to student achievement only in schools with trusting staff relationships, an early signal of the strategic–distributed complementarity developed below. Within the Maldives, Fikuree et al. (2021) found that principals' effectiveness in promoting teacher quality predicts student achievement, while Shujau-Abdul-Raheem (2023) observed that school visions are not yet fully embedded in daily teaching, an implementation gap that strengthens the case for testing strategic leadership's direct contribution. This leads to the second hypothesis:

H₂: Strategic Leadership Practices have a direct, positive, and significant relationship with School Performance.

Distributed Leadership Practices: Construct, Evidence, and Hypothesis

Distributed leadership treats leadership as a collective property that emerges from the social and situational context of the school (Gronn, 2002; Spillane, 2006). Spillane (2006) identifies three core elements, leader-plus, practice, and situation, and emphasises leadership as something enacted in interaction, while Gronn (2002) introduces the idea of conjoint agency (leaders acting together in a coordinated way). Elmore (2000) adds that effective improvement depends on distributing leadership according to expertise rather than position. In this study, DLP is measured through four dimensions drawn from Gordon (2005), Harris (2008), Hulpia et al. (2012), and Jensen (2010): Quality Distribution of Support (DSP), Quality Distribution of Supervision (DSV), Cooperation in the Leadership Team (CLT), and Participative Decision-Making (PDM).

The evidence consistently supports its value. Hulpia et al. (2012) found that distributed support and supervision predict teacher commitment. Liu (2021) linked teacher leadership to student achievement using PISA data; Khadka et al. (2024) reported significant effects on educational outcomes in Nepal; and Galdames-Calderón (2023) showed growth in teacher leadership capacity. Canterino et al. (2020) showed that distributed leadership mediates the mobilisation of organisational change. Thien et al. (2024) identified cohesive teams and participative decision-making as necessary and sufficient for teacher commitment to change. Hammond et al. (2024) highlighted relational coherence and professional knowledge development, while Bellibaş et al. (2020), Özdemir et al. (2023), and Çoğaltay and Boz (2022) confirmed effects on collaboration, instructional practice, and collective efficacy, particularly in collectivist contexts.

Critical voices caution against treating delegation as distribution without also building capacity (Harris, 2008) and warn that distributed leadership can mask underlying power imbalances (Bolden, 2011). A positive statistical association, in other words, does not by itself prove genuine collaborative practice. The Islamic principle of *shura* (consultative decision-making) offers a culturally relevant lens on distributed leadership in this setting (Amin et al., 2024), though it is not explicitly captured by current instruments and so remains a proposition for future qualitative work. Supporting evidence from the Maldives shows that collaborative cultures improve school effectiveness (Ismail et al., 2022). This leads to the third hypothesis:

H₃: Distributed Leadership Practices have a direct, positive, and significant relationship with School Performance.

The Integrated SLP and DLP Framework: Architectural and Kinetic Dimensions

Strategic and distributed leadership can be understood as a complementary, mutually reinforcing pair (Hargreaves & Fink, 2006) that addresses two different organisational problems. Strategic leadership provides the architectural dimension: the vision, direction, and long-term coherence of the school (Cheng, 2010; Davies & Davies, 2004). Distributed leadership provides the kinetic dimension: the day-to-day mobilisation of expertise and shared effort across the staff (Elmore, 2000; Spillane, 2006). Without distributed leadership, strategic leadership risks producing vision without action. Without strategic leadership, distributed leadership risks becoming busy but uncoordinated activity with no clear direction (Hargreaves & Fink, 2006).

The Maldivian context adds a further consideration: geographic dispersion turns distributed leadership from a pedagogical preference into an organisational necessity, extending Elmore's (2000) normative argument into a structural claim about how dispersed systems have to operate. The numerical pattern reported later is consistent with the idea that dispersion amplifies the role of distributed leadership, but, given a single-system design and a non-significant Wald test, this should be treated as a hypothesis for comparative research rather than an established finding.

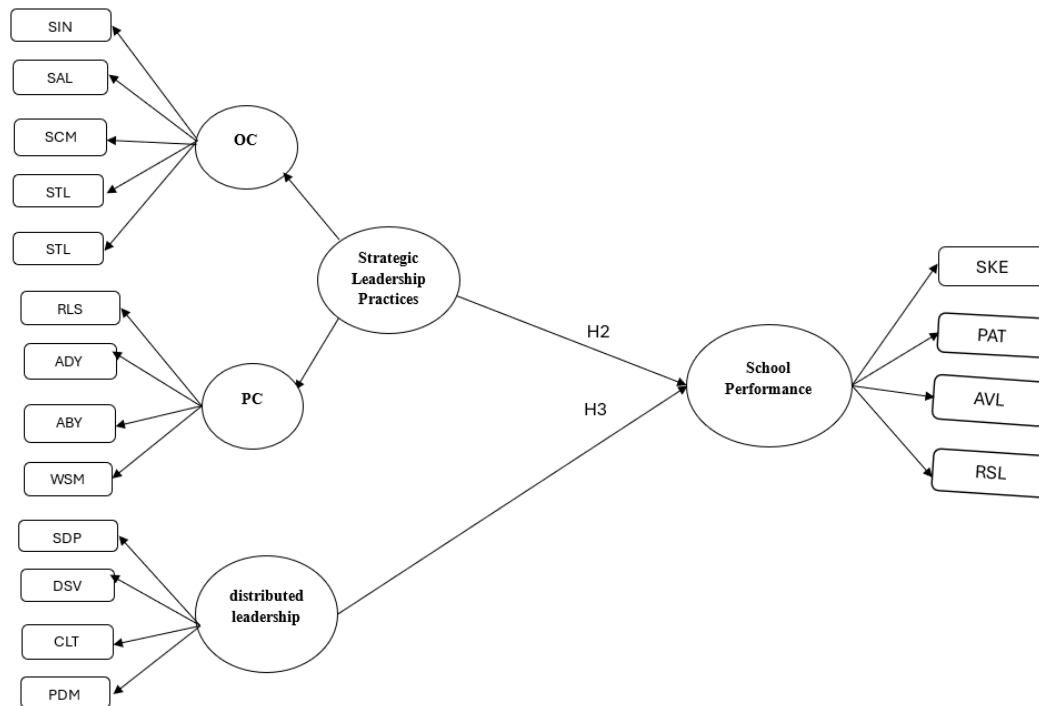
School Performance as a Multidimensional Construct

School performance is treated here as a multidimensional construct aligned with the Knowledge, Skills, Attitudes, and Values (KSAV) architecture of the Maldivian National Curriculum Framework (NIE, 2015). The KSAV framework defines a well-rounded education in terms of four domains of student outcome: Students' Sufficient Knowledge (SKE), Students' Right Skills (RSL), Students' Positive Attitudes (PAT), and Students' Appropriate Values (AVL), the last of which covers ethical, Islamic, democratic, and community-oriented values. Including Islamic values within the AVL dimension improves how well the measure fits the Maldivian context, but it also limits direct cross-national comparison, and this trade-off is acknowledged openly. A narrowly academic definition of performance would hide leadership effects on exactly the attitudinal and values-based outcomes that the curriculum framework prioritises (Lamas, 2015). Using the KSAV framework is therefore not just a contextual choice but a deliberate methodological commitment to measuring outcomes in the way the national curriculum intends.

CONCEPTUAL MODEL

Bringing the preceding sections together, the conceptual model specifies SLP as a second-order construct reflected by Organisational Capabilities and Personal Characteristics; DLP as a first-order construct reflected by DSP, DSV, CLT, and PDM; and SP as a higher-order construct reflected by SKE, RSL, PAT, and AVL. Three hypotheses are advanced: H₁ (measurement model validity); H₂ (SLP → SP); and H₃ (DLP → SP). Figure 1 presents the hypothesised conceptual model.

Figure 1
Hypothesised Conceptual Model



Note. SLP = Strategic Leadership Practices; DLP = Distributed Leadership Practices; SP = School Performance. H₂ and H₃ denote the hypothesised direct paths.

METHODOLOGY

Research Design

This study adopts a positivist paradigm, employing a cross-sectional survey design to collect data at a single point in time from leadership personnel across Maldivian secondary schools. Within this design, the present study is predictive rather than purely correlational. The conceptual model specifies directional paths (H₂ and H₃) from Strategic Leadership Practices and Distributed Leadership into School Performance, which are tested as hypothesised structural paths using structural equation modeling rather than as simple bivariate associations, consistent with the positivist emphasis on objectively measurable constructs and a priori hypothesis testing.

Population and Sample

The target population comprised all formally designated leadership personnel in Maldivian secondary schools: principals, deputy principals, leading teachers, heads of department, and senior administrators. As of 2024, the system contained 217 secondary schools across 20 atolls (Ministry of Education, 2024). The sampling frame was restricted to schools that met two criteria: (a) operation of a complete secondary programme through Cambridge IGCSE/O-Level examinations, and (b) the presence of a formal middle-leadership tier, which is what makes the DLP measure applicable. Twenty-two schools were excluded on the first criterion and ten on the second, leaving an eligible

frame of 195 schools and 1,641 individuals in formal leadership positions (Ministry of Education, 2024).

After screening for incomplete responses, univariate outliers ($|z| > 3.29$), multivariate outliers (Mahalanobis $D^2 > \text{critical chi-square}$, $p < .001$), and within-school duplicates, the final analytical sample was 372 valid responses from 185 schools across all 20 atolls (school-level participation = 94.87%). The average of about 2.01 respondents per school is a narrow window into collective leadership, a limitation revisited in a later section of this article. The sample comfortably exceeded conventional minimum sample-size requirements for SEM (Hair et al., 2019; Kline, 2023).

Instrument

Strategic leadership practices were measured using 49 items adapted from Hairuddin (2012). It was an unpublished doctoral instrument and was hence validated through a multi-stage strategy: (a) content validity was assessed using Lawshe's (1975) Content Validity Ratio (CVR) with a nine-member expert panel (three educational-leadership academics, three senior Ministry of Education officials, and three experienced principals), with items falling below the critical CVR of .78 revised or removed; (b) a pilot test ($n = 48$), consistent with recommended pilot sample sizes (Hertzog, 2008), confirmed acceptable internal consistency (Cronbach's $\alpha = .72$ to $.87$); and (c) CFA-based validation produced strong standardised loadings ($\beta = .739$ to $.870$) and composite reliability of CR = $.850$ (Personal Characteristics) and CR = $.900$ (Organisational Capabilities). Distributed Leadership Practices were measured using 30 items adapted from Hulpia et al. (2012) and Jensen (2010). School performance was measured using 20 items aligned with the KSAV framework, developed in consultation with the Maldivian National Institute of Education (NIE, 2015). Procedural remedies against common method bias followed Podsakoff et al. (2003): anonymity was guaranteed; predictor and criterion items were separated in time and layout; reverse-scored items were included throughout; and item wording was simplified after pilot feedback.

DATA COLLECTION AND ETHICS

Data for the study were collected via an online questionnaire hosted on Google Forms. Prior to data collection, written permission was obtained from both the International Islamic University Malaysia (IIUM) and the Ministry of Education, confirming approval to conduct the research in Maldivian secondary schools. The questionnaire link was emailed to each school's principal along with these approval letters, and principals were asked to disseminate it to eligible respondents and notify the researcher upon completion, with responses recorded automatically to the researcher's Google Drive. School leaders were properly informed of the study's purpose, procedures, and the voluntary nature of participation. Although the questionnaire took approximately 10–15 minutes to complete, response collection took considerably longer than the one- to two-month period initially allotted. Weekly follow-up calls were made to school principals to encourage participation, and the Ministry's Permanent Secretary was later asked to help expedite responses across schools. The overall process took more than six months, reflecting administrative delays and the geographic dispersion of schools across the country's atolls. Of the 195 secondary schools invited, 185 (94.9%) participated, representing all atolls; the remaining 10 schools reported requesting responses from staff but did not return completed questionnaires. All data were handled in accordance with standard ethical research principles: personal information was de-identified prior to analysis and reporting, and access to the data was restricted and used solely for the purposes of this study. The final questionnaire comprised 99 items across the study's three constructs (SLP, DLP, and SP).

DATA ANALYSIS

Data analysis used the two-step SEM approach (Anderson & Gerbing, 1988) in IBM AMOS version 29 with maximum likelihood estimation. Step 1 used confirmatory factor analysis (CFA) to address RQ1 and test H₁, assessing convergent validity through standardised loadings ($\geq .50$), composite reliability ($CR \geq .70$), and average variance extracted ($AVE \geq .50$) (Fornell & Larcker, 1981; Hair et al., 2019). Discriminant validity was assessed using the Fornell–Larcker criterion and the heterotrait–monotrait (HTMT) ratio (threshold = .85; Henseler et al., 2015). Model fit was evaluated using a broad set of indices spanning the absolute, incremental, and parsimony families: the chi-square/df ratio (≤ 5.0), RMSEA ($\leq .08$), RMR (values $\leq .08$ indicate good fit), GFI and AGFI ($\geq .90$), and CFI, TLI, and IFI ($\geq .90$) (Byrne, 2016; Hu & Bentler, 1999; Kline, 2023). Step 2 tested the structural model to address RQ2 and test H₂ and H₃, with bootstrapped (5,000 resamples) standard errors and bias-corrected confidence intervals reported alongside conventional critical ratios. A Wald chi-square test formally compared the sizes of the SLP $\rightarrow$ SP and DLP $\rightarrow$ SP coefficients. Common method bias was assessed using both Harman's single-factor test and an unmeasured latent method factor (ULMF) (Cole et al., 2007).

RESULTS

Sample Demographics

Table 1 presents the demographic characteristics of the respondents. The sample was predominantly female (73.39%) and mid-career (68.55% aged 31 to 50), and most respondents held a bachelor's degree or higher (90.32%) and were Maldivian nationals (96.24%). The distribution by leadership role is also reported, to support judgements about how well the sample represents the leadership hierarchy.

Table 1

Demographic Characteristics of Respondents (N = 372)

Variable	Category	n	%
Gender	Female	273	73.39
	Male	99	26.61
Age	20–30 years	32	8.60
	31–40 years	127	34.14
	41–50 years	128	34.41
	51–65 years	85	22.85
Qualification	Diploma	36	9.68
	Bachelor's degree	232	62.37
	Master's degree	104	27.96
Leadership role	Principal	64	17.20
	Deputy Principal	78	20.97
	Leading Teacher	96	25.81
	Head of Department	108	29.03
	Senior Administrator	26	6.99
Nationality	Maldivian	358	96.24
	Expatriate	14	3.76

Common Method Bias Assessment

Harman's single-factor test indicated that the first unrotated factor accounted for 31.40% of the total variance, well below the 50% threshold (Podsakoff et al., 2003). As this test alone is not sufficient,

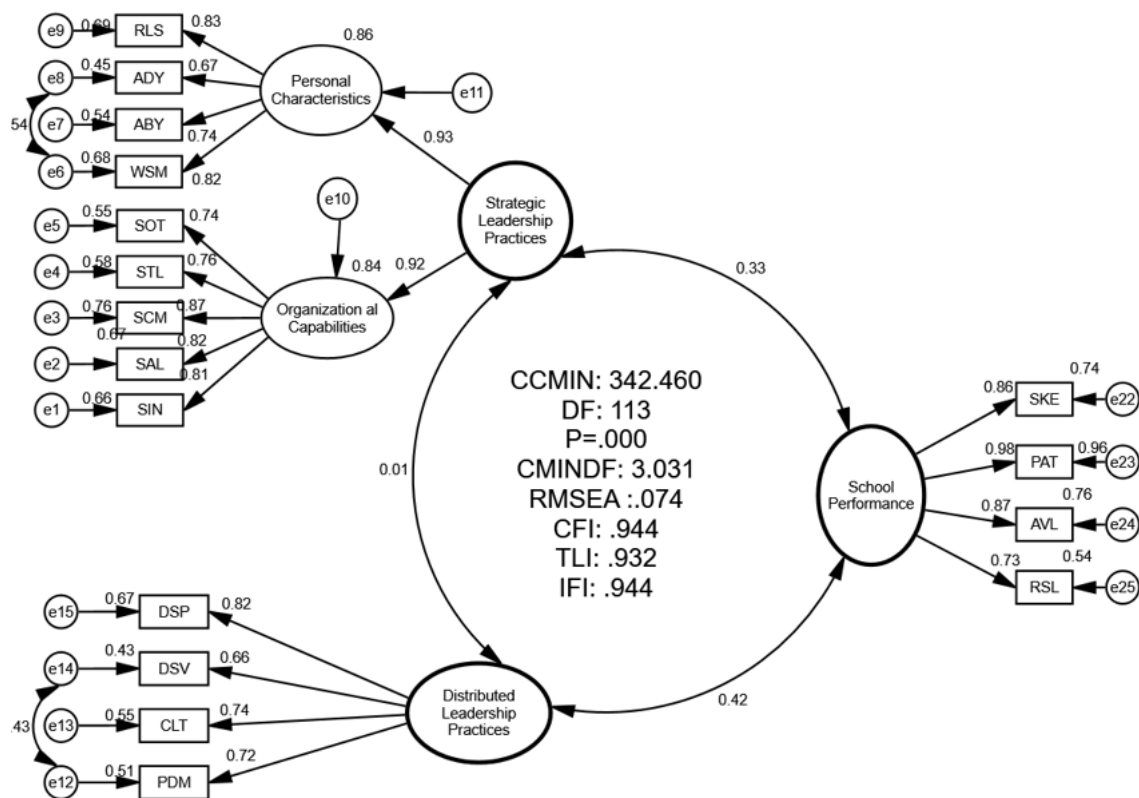
an unmeasured latent method factor (ULMF) model was also specified; adding the method factor produced negligible change in standardised loadings (mean $\Delta\lambda = .03$) and left the structural coefficients significant and similar in size. Combined with the procedural remedies described earlier, these results suggest that common method bias is unlikely to be a dominant threat to validity, though it cannot be fully ruled out (Hermida, 2015).

Measurement Model Validation

The full measurement model showed largely acceptable fit, with the chi-square/df ratio slightly above the stricter threshold: $\chi^2/df = 3.031$; RMSEA = .074, 90% CI [.069, .079]; CFI = .944; TLI = .932; IFI = .944 (Hu & Bentler, 1999; Kline, 2023). Although the χ^2/df value falls within the broader ≤ 5.0 range (Wheaton et al., 1977), its position above the stricter ≤ 3.0 benchmark, together with the RMSEA, indicates a model that is acceptable but not optimal. This is informative rather than fatal: it points to room for refinement, particularly around the DLP construct. Figure 2 displays the measurement model with standardised factor loadings.

Figure 2

Measurement Model With Standardised Factor Loadings



Note. The diagram shows the second-order SLP construct (OC and PC), the first-order DLP construct (DSP, DSV, CLT, PDM), and the higher-order SP construct (SKE, RSL, PAT, AVL), with all standardised loadings and inter-construct correlations.

All standardised loadings were significant at $p < .001$. The second-order SLP construct was strongly indicated by Organisational Capabilities ($\beta = .93$) and Personal Characteristics ($\beta = .86$). SP was strongly indicated by PAT ($\beta = .98$), AVL ($\beta = .87$), SKE ($\beta = .86$), and RSL ($\beta = .73$). The very high PAT loading ($\beta = .98$) approaches the upper bound of what is psychometrically plausible and

deserves comment. Although such a loading suggests that PAT may function almost as a proxy for the SP construct itself, the AVE for SP (.749) and its CR (.922) both comfortably exceed thresholds, so there is no sign of serious redundancy. The loading is not a Heywood case (there is no standardised loading above 1.0 and no negative error variance), and the construct shows acceptable discriminant validity (see Table 3). It is noted, nonetheless, as a candidate for future scale refinement, specifically checking for item overlap between the PAT dimension and the higher-order SP construct. DLP loadings were DSP ($\beta = .82$), CLT ($\beta = .74$), PDM ($\beta = .72$), and DSV ($\beta = .66$), with DSV being the weakest in the full model. Table 2 reports the standardised factor loadings along with CR and AVE for all constructs.

Table 2

Standardised Factor Loadings, Composite Reliability, and Average Variance Extracted

Construct	Code	Dimension	Loading	CR	AVE
Organisational Capabilities	SIN	Strategic Intent	.810	.900	.643
	SAL	Strategic Alignment	.821		
	SCM	Strategic Competence	.870		
	STL	Strategic Translation	.763		
	SOT	Strategic Orientation	.739		
Personal Characteristics	WSM	Wisdom	.822	.850	.589
	ABY	Adaptive Capacity	.738		
	ADY	Absorptive Capacity	.669		
	RLS	Restlessness	.829		
Distributed Leadership	DSP	Distribution of Support	.818	.824	.540
	CLT	Cooperation in Team	.741		
	PDM	Participative Decision-Making	.717		
	DSV	Distribution of Supervision	.656		
School Performance	PAT	Positive Attitudes	.980	.922	.749
	AVL	Appropriate Values	.873		
	SKE	Sufficient Knowledge	.859		
	RSL	Right Skills	.733		

Note. All loadings are significant at $p < .001$. CR = composite reliability; AVE = average variance extracted. For DLP, AVE = .540 (at the lower bound); the DSV dimension ($\beta = .66$) is comparatively weak. The very high PAT loading ($\beta = .98$) is discussed in the text.

All constructs exceeded the CR ($\geq .70$) and AVE ($\geq .50$) thresholds, supporting convergent validity. Table 3 reports the discriminant validity results using the Fornell–Larcker criterion and the HTMT ratio.

Table 3

Discriminant Validity: Fornell–Larcker Criterion and HTMT Ratios

Construct	SLP	DLP	SP
SLP	<i>0.920</i>		
DLP	0.217 [.26]	<i>0.735</i>	
SP	0.350 [.39]	0.411 [.47]	<i>0.865</i>

Note. Italicised diagonal values are the square root of the AVE. Below-diagonal values are inter-construct correlations, with HTMT ratios in brackets. All HTMT values fall well below the .85 threshold (Henseler et al., 2015). The low SLP–DLP correlation ($r = .217$) indicates that strategic and distributed leadership are empirically distinguishable in this system.

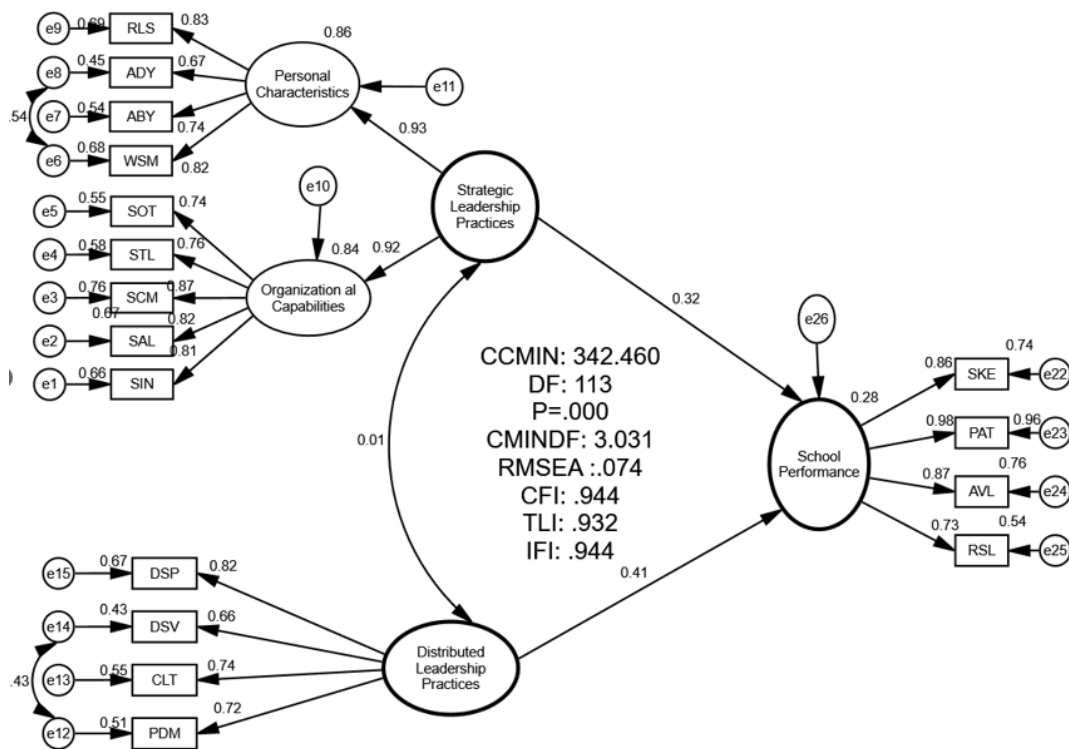
All HTMT values are well below the .85 threshold (Henseler et al., 2015), supporting discriminant validity on both criteria. The low correlation between SLP and DLP ($r = .217$) is meaningful. It indicates that, although strategic and distributed leadership often appear together in the normative literature, they are empirically distinguishable in this system, which is consistent with the complementary literature review. H_1 is therefore supported, with the qualifications noted above.

Structural Model

Figure 3 presents the structural model with standardised path coefficients. The structural model showed acceptable fit, reproducing the measurement-model fit indices. Both SLP ($\beta = .323$, $p < .001$) and DLP ($\beta = .413$, $p < .001$) significantly predicted SP, and the model accounted for 28% of the variance in SP ($R^2 = .28$). Both coefficients represent weak-to-moderate direct effects by conventional standards (Cohen, 1988; Keith, 2019). This is expected rather than disappointing because leadership influences school and student outcomes largely through mediating teacher-level processes (Leithwood et al., 2020), direct coefficients of this size are consistent with the wider literature and should not be read as strong direct effects. Two further cautions apply to the R^2 . First, it reflects leadership's direct contribution to a self-reported, holistic measure of SP, and a substantial part of the remaining variance is plausibly mediated through teacher-level mechanisms that were not modelled here (Leithwood et al., 2020). Second, school-level covariates (school size, atoll location, urban or island designation, and resource levels) were not included as controls, so the 28% conflates leadership effects with potentially confounded institutional characteristics. Adding these covariates is identified as a priority for future work. Table 4 summarises the structural path coefficients and the hypothesis tests.

Figure 3

Structural Model with Standardised Path Coefficients



Note. Standardised path coefficients are shown for the SLP $\rightarrow$ SP and DLP $\rightarrow$ SP paths; R^2 for SP = .28.

Table 4*Structural Path Coefficients and Hypothesis Tests*

H	Path	β	Boot SE	95% BC CI	C.R.	p	Decision
H ₂	SLP $\rightarrow$ SP	.323	.051	[.224, .422]	6.268	< .001	Supported
H ₃	DLP $\rightarrow$ SP	.413	.057	[.302, .521]	7.274	< .001	Supported

Note. β = standardised path coefficient; Boot SE = bootstrapped standard error; BC CI = bias-corrected confidence interval (5,000 resamples); C.R. = critical ratio. Both coefficients represent weak-to-moderate direct effects (Cohen, 1988; Keith, 2019). A Wald test of coefficient equality was not significant ($\Delta\chi^2 = 1.42$, $df = 1$, $p = .234$).

A formal Wald chi-square test of the constraint $\beta(\text{SLP} \rightarrow \text{SP}) = \beta(\text{DLP} \rightarrow \text{SP})$ was not significant ($\Delta\chi^2 = 1.42$, $df = 1$, $p = .234$). The numerically larger DLP coefficient is therefore consistent with, but does not statistically establish, the geographic amplification idea. This is an important correction to a naïve reading of "DLP > SLP." It is also worth noting that these estimates were obtained under covariance-based SEM in AMOS, which applies stricter distributional and model-fit requirements than variance-based partial least squares (PLS) SEM (Dash & Paul, 2021). Even under these stricter conditions, both paths were significant and their bootstrapped bias-corrected confidence intervals excluded zero, which supports the robustness of the two direct effects while reinforcing the caution that they are modest in size.

DISCUSSION

Measurement Model Validity in a Non- Western Context

The measurement results indicate that the imported constructs have workable psychometric properties in the Maldivian context, but the transfer was only partial. The DLP construct performed at the margin ($AVE = .540$), and its weakest dimension was Distribution of Supervision (DSV, $\beta = .66$). The most plausible explanation for this is that supervisory authority in Maldivian schools remains concentrated at the principal level; therefore, items about distributed supervision describe a practice that the institutional structure constrains. This reading is consistent with evidence from hierarchical Asian systems showing that supervisory dimensions of distributed leadership contribute less to teacher outcomes than its collaborative and participative dimensions (Thien et al., 2024). The practical implication is that DLP's collaborative dimensions travel more easily into authority-concentrated systems than its supervisory dimension does, which matters for anyone adapting the instrument to similar contexts. The very high PAT loading ($\beta = .98$) and the acceptable-but-not-optimal global fit ($\chi^2/df = 3.031$) were flagged earlier and both point in the same direction. The measurement model is defensible for the present purpose but has clear targets for refinement, namely the DSV dimension and possible item overlap between PAT and the higher-order SP construct.

Strategic Leadership and School Performance

H₂ (Strategic leadership practices have a direct, positive, and significant relationship with school performance) was supported ($\beta = .323$, $p < .001$). The finding is noteworthy for what the outcome measure contains: because SP was measured through the KSAV framework rather than test scores alone, the result indicates that strategic leadership is associated with the skills, attitudes, and values that the national curriculum emphasises, outcomes that achievement-only designs cannot detect (Lamas, 2015). This aligns with evidence that strategic technique and relational conditions work together (Lee et al., 2024) and with Maldivian evidence linking principal effectiveness to student outcomes (Fikuree et al., 2021). It also speaks directly to the implementation gap observed by Shujau-Abdul-Raheem (2023), who stated that schools where strategic practices are stronger report stronger

holistic performance, which is what one would expect if strategic work helped close the gap between vision and daily teaching.

Distributed Leadership and School Performance

H₃ (Distributed leadership practices have a direct, positive, and significant relationship with school performance) was supported by the data ($\beta = .413$, $p < .001$). The core finding is that DLP, as measured through support, supervision, cooperation, and participative decision-making, has a significant positive association with holistic school performance in this system. Given the non-significant Wald test, the numerically larger DLP coefficient should not be read as evidence that distributed leadership matters more than strategic leadership here. Several mechanisms could plausibly produce the observed pattern: the operational necessity of distributed work across island sites; cultural alignment between collaborative practice and consultative norms; and the sensitivity of the KSAV outcome measure to precisely the outcomes that collaborative cultures cultivate. However, the present design cannot separate them, and they are left as questions for comparative and qualitative work.

The Integrated Framework

The framework suggests that good school leadership in this setting involves two distinct jobs. The first is architectural: setting the school's direction, aligning structures and resources accordingly, and keeping that design coherent over time: this is the essence of the strategic leadership construct. The second is kinetic: getting the daily work of teaching and improvement done through many hands by supporting staff, cooperating in teams, and sharing decisions: this is what the distributed leadership construct captures. The two jobs answer different failure modes: without the architectural job, activity loses direction; without the kinetic job, direction never becomes activity (Hargreaves & Fink, 2006; Weick, 1976). Empirically, the two constructs were only weakly correlated ($r = .217$) yet each independently predicted performance and together explained 28% of its variance, exactly the pattern expected if they are complementary rather than interchangeable. The 28% figure is a direct-effects estimate; effectiveness research suggests that total leadership effects, once mediated pathways are included, are larger than direct estimates imply (Leithwood et al., 2020; Scheerens & Bosker, 1997).

Implications

Theoretical Implications

The study offers one of the first empirical validations of an integrated SLP–DLP model in a small-island developing state, contributing to leadership hybridity theory (Agarwal et al., 2021; Soni et al., 2023). It repositions geographic dispersion as a structural boundary condition that shapes how leadership operates, extending Elmore's (2000) normative argument for distribution into a claim about how dispersed systems must function. It also identifies cultural resonance between distributed leadership and *shura*-based consultative norms as a candidate mechanism for the institutionalisation of DLP in Muslim-majority collectivist contexts (Amin et al., 2024), a proposition for qualitative testing rather than a demonstrated result.

Methodological Implications

The study shows that the KSAV policy framework (NIE, 2015) can be operationalised as a multidimensional outcome measure within a rigorous SEM design. This matters because leadership effects can disappear when outcomes are reduced to achievement scores (Tan et al., 2021; Witziers et al., 2003). Here, meaningful direct effects were detected against a broader outcome. The 94.87%

school-level coverage also demonstrates that near-census SEM studies are feasible in dispersed small-island systems.

Policy and Practice Implications

At system level, leadership standards and appraisal frameworks should assess both strategic-planning competence and distributed-leadership capacity, since authority-concentrated systems tend to undervalue the latter. At the school level, principals should pair data-informed strategic management with structured distribution mechanisms, because strategic technique and relational trust develop together (Lee et al., 2024). Professional development should be redesigned around the integrated framework, and evidence that leadership development programmes can improve school outcomes (Ağirdağ & Muijs, 2023) supports investing in such provision, while programmes should also examine critically whether new structures genuinely redistribute capacity or merely relabel existing hierarchies (Bolden, 2011; Harris, 2008). Thien et al.'s (2024) finding that cohesive team functioning and participative decision-making are necessary conditions for teacher commitment gives middle-leadership development a concrete target.

LIMITATIONS AND FUTURE RESEARCH

Seven limitations should be acknowledged. First, the cross-sectional design cannot establish causality; longitudinal designs are needed. Second, all data were self-reported by leadership personnel who evaluated both their own practices and their school's performance, a same-source risk only partly mitigated by the CMB checks; multi-rater designs (teachers, students, external indicators) would strengthen inference. Third, the DLP measure performed at the psychometric margin, and its supervision dimension needs refinement for authority-concentrated systems. Fourth, the direct-effects model omits the teacher-level mediating mechanisms through which leadership mainly works (Leithwood et al., 2020). Fifth, the secondary-school, single-system focus limits generalisation, and the Islamic-values content of AVL limits direct cross-national comparison. Sixth, the average of about two respondents per school from an eligible pool averaging 8.4 per school offers a narrow window into leadership as a collective property. Seventh, school-level covariates were not modelled, so the R^2 partly reflects unmeasured institutional differences; and because CB-SEM applies stricter distributional and fit requirements than variance-based approaches (Dash & Paul, 2021), the acceptable-but-not-optimal fit should be interpreted within that framework.

Future research should pursue: longitudinal, multi-rater designs testing mediated and moderated pathways; qualitative work on how *shura* and distributed practice align; cross-national comparisons among small-island developing states to test the geographic amplification hypothesis directly; refinement of the DLP scale for authority-concentrated systems; inclusion of structural covariates; intervention studies testing whether building integrated leadership capacity improves outcomes; and the pairing of SEM with necessary condition analysis (Thien et al., 2024).

CONCLUSION

Strategic and distributed leadership each made a significant, independent, weak-to-moderate direct contribution to holistic school performance in Maldivian secondary schools, together explaining 28% of its variance. The two constructs proved to be empirically distinct yet complementary. While one supplies direction and coherence, the other supplies enactment through many hands. Although the distributed leadership coefficient was numerically larger, the difference was not statistically significant. Therefore, claims that dispersion amplifies distributed leadership await comparative evidence. For education systems facing similar structural conditions, the practical message is that leadership development should build both capacities together, clear strategic direction and genuinely shared responsibility for carrying it out.

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