

STRATEGIC LEADERSHIP AND DISTRIBUTED
LEADERSHIP OF SCHOOL LEADERS MEDIATED BY
PEDAGOGICAL SKILLS OF TEACHERS ON SCHOOL-
PERFORMANCE OF SECONDARY SCHOOL LEAVERS
IN THE REPUBLIC OF MALDIVES

BY

AZLEEN AHMED

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

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ABSTRACT

The Republic of Maldives faces distinct educational challenges arising from its extreme geographic dispersion and the imperative to ensure equitable, high-quality secondary education across its 186 islands. Despite sustained government investment and policy reforms, secondary school performance remains uneven, with persistent concerns regarding students' academic outcomes and holistic development. Although international scholarship underscores the critical role of school leadership in shaping educational quality, empirical evidence from the Maldivian context remains limited, particularly regarding how leadership practices interact with teachers' pedagogical skills to influence school performance. Addressing this gap, the present study examined the relationships among Strategic Leadership Practices, Distributed Leadership Practices, Teachers' Pedagogical Skills, and School Performance in Maldivian secondary schools, with a specific focus on both direct effects and the mediating role of pedagogical skills. A quantitative, non-experimental, descriptive–correlational design was employed. Data were collected through a cross-sectional survey administered to a stratified random sample of 372 school leaders, including principals, deputy principals, and heads of departments, drawn from secondary schools across 20 atolls. The study utilized a validated questionnaire adapted from established instruments, and the proposed measurement and structural models were tested using Structural Equation Modelling (SEM) with AMOS software. The findings indicate that Strategic and Distributed Leadership Practices are implemented at moderate levels, while Teachers' Pedagogical Skills and overall School Performance are perceived to be high. SEM results reveal that both leadership styles exert significant positive direct effects on school performance. Moreover, teachers' pedagogical skills significantly mediate the relationships between both leadership practices and school performance. Notably, Distributed Leadership demonstrates a stronger influence on pedagogical skills than Strategic Leadership and yields a more substantial indirect effect on school performance. The study concludes that while strategic leadership provides essential direction, a distributed leadership approach that empowers teachers plays a more decisive role in strengthening pedagogical competence and enhancing school performance. These findings offer robust empirical implications for educational policymakers in the Maldives, emphasizing the need to prioritize professional development initiatives that foster collaborative leadership and pedagogical autonomy to sustain long-term school improvement.

ملخص البحث

تواجه جمهورية المالديف تحديات تعليمية فريدة ناتجة عن التشتت الجغرافي الشديد وضرورة ضمان تعليم ثانوي عادل وعالي الجودة عبر 186 جزيرة. وعلى الرغم من الاستثمارات الحكومية المستمرة والإصلاحات السياسية المتعددة، لا يزال أداء المدارس الثانوية غير متسق، مع وجود مخاوف مستمرة تتعلق بالتحصيل الأكاديمي والتنمية الشاملة لخريجي المدارس. ورغم أن الأدبيات الدولية تؤكد الدور المحوري للقيادة المدرسية في تحسين جودة التعليم، فإن الأدلة التجريبية في السياق المالديفي لا تزال محدودة، لا سيما فيما يتعلق بكيفية تفاعل أنماط القيادة مع المهارات التربوية للمعلمين في التأثير على أداء المدارس. وانطلاقاً من هذه الفجوة البحثية، هدفت هذه الدراسة إلى فحص العلاقات بين ممارسات القيادة الاستراتيجية، وممارسات القيادة الموزعة، والمهارات التربوية للمعلمين، وأداء المدارس في المدارس الثانوية بالمالديف، مع التركيز على التأثيرات المباشرة والدور الوسيط للمهارات التربوية. اعتمدت الدراسة منهجاً كمياً غير تجريبي ذات تصميم وصفي-ارتباطي. وتم جمع البيانات من خلال استبانة مقطعية وُزعت على عينة عشوائية طبقية مكونة من 372 من القيادات المدرسية، شملت مديري المدارس، ونواب المديرين، ورؤساء الأقسام، من المدارس الثانوية في 20 أتول. واستُخدمت أداة بحثية مُحكَّمة ومقتبسة من مقاييس معتمدة، كما جرى تحليل البيانات باستخدام نموذج المعادلات الهيكلية (SEM) عبر برنامج AMOS لاختبار نماذج القياس والبناء الهيكلية. وأظهرت النتائج الوصفية أن ممارسات القيادة الاستراتيجية والقيادة الموزعة تُمارس بمستوى متوسط في المدارس المالديفية، في حين أُدركت المهارات التربوية للمعلمين وأداء المدارس بمستويات مرتفعة. وأكدت نتائج نموذج المعادلات الهيكلية وجود تأثيرات مباشرة إيجابية ودالة إحصائياً لكلٍ من القيادة الاستراتيجية والقيادة الموزعة على أداء المدارس. كما تبين أن المهارات التربوية للمعلمين تلعب دوراً وسيطاً معنوياً في العلاقة بين نمطي القيادة وأداء المدارس. وعلى وجه الخصوص، أظهرت القيادة الموزعة تأثيراً أقوى على تنمية الكفاءة التربوية للمعلمين مقارنة بالقيادة الاستراتيجية، كما كان تأثيرها غير المباشر على أداء المدارس أكثر بروزاً. وتخلص الدراسة إلى أنه في حين توفر القيادة الاستراتيجية توجهاً ضرورياً، فإن تبني ثقافة قيادة موزعة تُعزز تمكين المعلمين يمثل المحرك الرئيس لتحسين المهارات التربوية ومن ثم الارتقاء بأداء المدارس. وتوفر هذه النتائج أساساً تجريبياً مهماً لصانعي السياسات التعليمية في المالديف، يدعم توجيه جهود التطوير المهني نحو تعزيز القيادة التشاركية والاستقلالية التربوية لتحقيق تحسين مدرسي مستدام.

APPROVAL PAGE

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DECLARATION

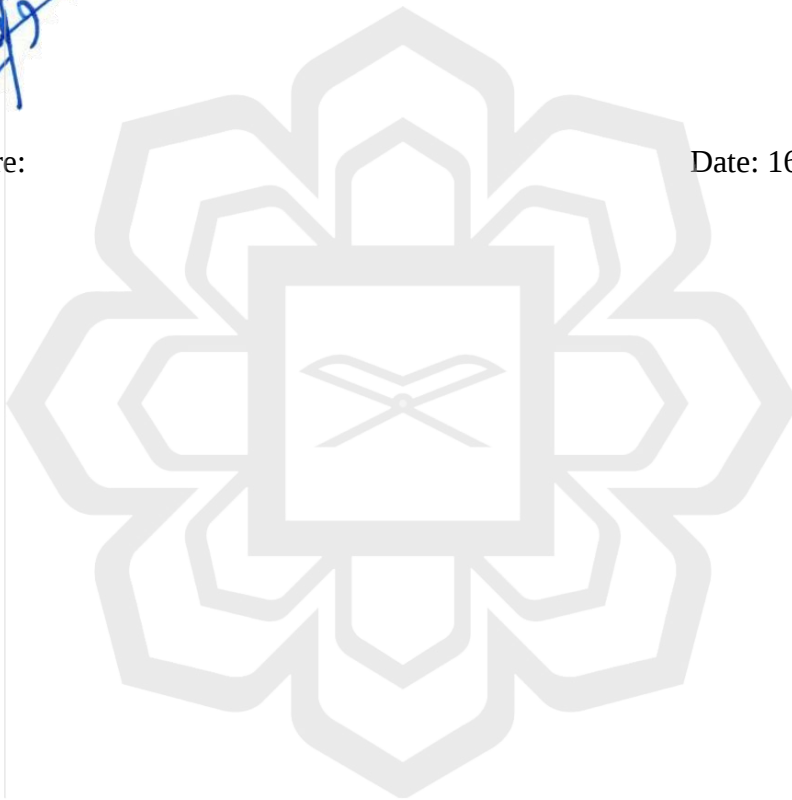
I hereby declare that this thesis is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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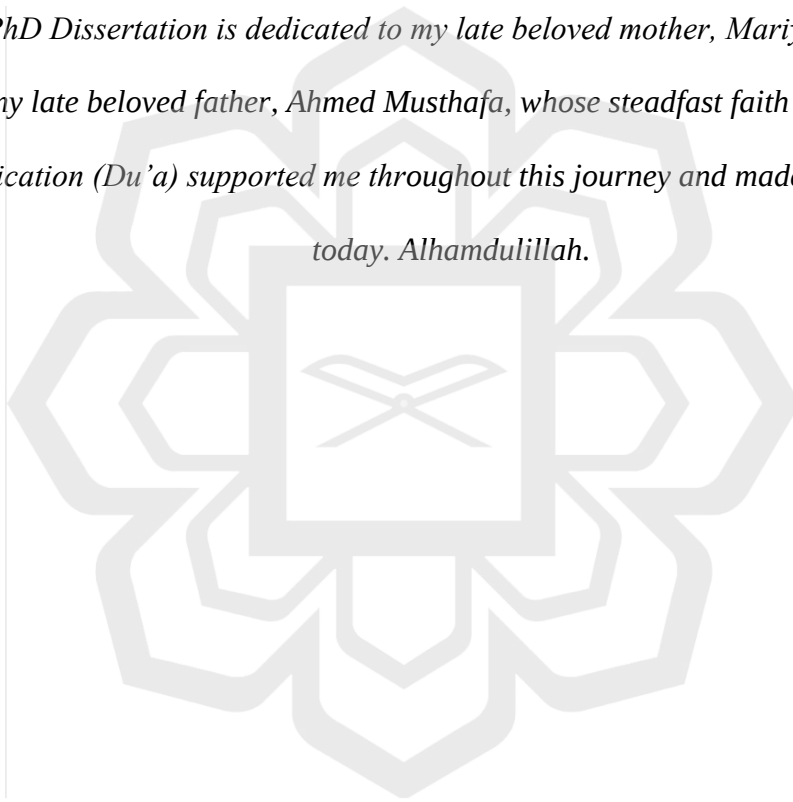
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This PhD Dissertation is dedicated to my late beloved mother, Mariyam Su'oodha, and my late beloved father, Ahmed Musthafa, whose steadfast faith and ceaseless supplication (Du'a) supported me throughout this journey and made me who I am today. Alhamdulillah.



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As I stand at the culmination of this journey, my heart is filled with a mix of emotions - pride, gratitude, and above all, overwhelming sadness. I am consumed by the thought that I am dedicating this PhD thesis to my late beloved parents, especially my beloved mother, Mariyam Su'oodha, who was my guiding light, my inspiration, and my everything. I had always dreamed of physically dedicating this dissertation to her, of seeing the pride in her eyes, of hearing her words of encouragement, and of feeling her warm embrace. But alas, fate had other plans. Neither my beloved mother nor my beloved father is here to witness this moment, to share in my joy, or to ease my pain. Their absence creates an unfillable void and a wound that will never heal. The grief of knowing I can never see, talk to, or hold them again is overwhelming. Yet, I find solace in believing they are with me in spirit, guiding and watching over me. I pray for their comfort in the afterlife and hope for a reunion where we can be together forever in the hereafter, free from worldly sorrows.

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LIST OF ABBREVIATIONS

ABY	Absorptive Capacity
ADY	Adaptive Capacity
AGFI	Adjusted Goodness of Fit Index
AIC	Akaike Information Criterion
AMOS	Analysis of Moments Structures
AP	Academic Performance
ASP	Academic Support
AVE	Average Variance Extracted
AVL	Appropriate Values
BIC	Bayesian Information Criterion
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CI	Confidence Interval
CLT	Cooperation in Leadership Team
CR	Critical Ratios
CRI	Composite Reliability Index
CWF	Care & Welfare
DLP	Distributed Leadership Practice
DSP	Distribution of Support
DSV	Distribution of Supervision
DV	Dependent Variable
ESQID	Educational Supervision & Quality Improvement Division
GER	Gross Enrolment Rates
GFI	Goodness of Fit Index
GOF	Goodness of Fit
HEIs	Higher Education Institutions
HSE	Higher Secondary Education
HTMT	Heterotrait-Monotrait
IBM	International Business Machines
ICN	Inclusion
IFI	Incremental Fit Index
IGCSE	International General Certificate of Secondary Education
IIUM	International Islamic University Malaysia
IV	Independent Variable
LSE	Lower Secondary Education
MAR	Missing at Random
MCAR	Missing Completely at Random
ML	Maximum Likelihood
MLE	Maximum Likelihood Estimation

MNAR	Missing Not at Random
MOE	Ministry of Education
NCF	National Curriculum Framework
NFI	Normed Fit Index
NIE	National Institute of Education
OC	Organisational Capability
PAT	Positive Attitude
PC	Personal Characteristics
PCK	Pedagogical Content Knowledge
PDM	Participative Decision Making
PDPs	Professional Development Programs
RMSEA	Root Mean Square Error of Approximation
RSL	Restlessness
RSL	Right Skills
SAL	Strategic Alignment
SCM	Strategic Competencies
SCZ	Socialisation
SE	Standard Error
SED	Social Education
SEM	Structural Equation Modelling
SES	Socio-Economic Status
SIN	Strategic Intervention
SKE	Sufficient Knowledge
SLP	Strategic Leadership Practice
SMCs	Squared Multiple Correlation Coefficients
SMT	School Management Team
SOT	Strategic Orientation
SP	School Performance
SPSS	Statistical Package for Social Sciences
SRMR	Standardised Root Mean Square Residual
SSC	Secondary School Certificate
STL	Strategic Translation
TLI	Tucker-Lewis Index
TMT	Top Management Team
TPACK	Technological Pedagogical Content Knowledge
TPS	Teachers' Pedagogical Skills
UET	Upper Echelons Theory
VIF	Variance Inflation Factor
WSM	Wisdom

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The Republic of Maldives, a small island nation in the Indian Ocean, presents a unique and challenging context for educational development due to its distinct geographical, socio-economic, and cultural characteristics. Located southwest of India and Sri Lanka, the country comprises 1,190 coral islands, of which only 186 are inhabited, with most islands lying just one meter above sea level (Woodroffe, 2008; Gagain, 2012). This geographic dispersion across a vast oceanic territory creates significant logistical challenges for the equitable delivery of educational services, particularly at the secondary level, where specialized resources and qualified teaching personnel are essential for quality instruction.

Formal education in the Maldives follows a 6+4+2 structure, comprising six years of primary education (Grades 1-6) covering key stage 1 and 2, four years of lower secondary education (LSE, Grades 7-10) covering key stage 3 and 4, and two years of higher secondary education (HSE, Grades 11-12) covering key stage 5 as outlined in the National Curriculum Framework 2015 (National Institute of Education, 2015). This framework emphasizes holistic student development encompassing sufficient knowledge, appropriate values, right skills, and positive attitudes—the four key dimensions that collectively define school performance in the Maldivian context. The government has made substantial investments in education, with over 14% of the annual budget allocated to the sector in recent years (Ministry of Finance and Treasury, 2015), reflecting a strong national commitment to educational development despite the inherent challenges of serving a dispersed population across multiple atolls.

A significant feature of Maldivian secondary education is its reliance on international curricula, specifically the Cambridge and Edexcel syllabi for LSE and HSE respectively. While these internationally benchmarked curricula aim to ensure educational quality and global competitiveness, their implementation in a small-island developing state has proven both challenging and costly. The geographic dispersion of schools across numerous islands necessitates duplicative infrastructure and teaching resources, while the international nature of the curriculum requires specialized teacher training and continuous professional development that strains limited national resources.

Despite these substantial investments and policy commitments, the school performance, especially academic performance (AP), an integral part of school performance of secondary school leavers has remained persistently unsatisfactory relative to national targets. Data from the Ministry of Education (2024) reveals concerning trends in student achievement across core subjects, with particularly low performance in mathematics and English language—subjects critical for higher education progression and workforce participation.

For instance, pass rates in mathematics have fluctuated between 50.00% and 62.4% over the past decade, while English language performance has ranged from 40.7% to 73.80% (Ministry of Education, 2024). Perhaps more troubling is the low percentage of students achieving passes in eight or more subjects—a critical indicator of comprehensive academic preparation—which stood at only 28.73% in 2023, down from 30.87% in 2021/22 (Ministry of Education, 2024).

The Maldivian government has implemented several policy initiatives aimed at addressing these performance challenges. The "60 Percent Pass Policy" introduced in 2009 sought to elevate pass rates in five core subjects from approximately 32% to 60% within five years, reflecting a clear political commitment to educational improvement (Ministry of Education, 2010a). Additionally, a shift toward formative assessment practices represented an attempt to move away from examination-focused pedagogy toward more continuous, learning-oriented evaluation approaches. However, implementation challenges led to a policy revision in 2020 that restricted

formative assessment to grades 1-7 only, highlighting the difficulties of systemic educational reform in this context (Ministry of Education, 2019a).

Compounding these academic challenges are demographic trends with significant educational implications. While gross enrollment rates in LSE approach 100%, enrollment in HSE has historically been much lower, reaching only 21% by 2011 according to World Bank data (2012). This low progression rate can be partially attributed to poor academic performance at the LSE level, creating a bottleneck in the educational pipeline that limits opportunities for higher education and skilled employment. The situation is further complicated by population growth and changing demographics, with the total population increasing from 344,023 in 2014 to 521,021 in 2023 (World Population Review, 2024), placing additional demands on an already strained educational system.

In response to these multifaceted challenges, increasing attention has turned to school leadership as a potentially transformative factor in educational improvement. International research consistently identifies leadership as second only to classroom teaching in its impact on student learning outcomes (Leithwood et al., 2020). Within this broader leadership discourse, two frameworks have gained particular prominence: strategic leadership and distributed leadership. Strategic leadership, as conceptualized by Davies and Davies (2004), emphasizes vision-setting, long-term planning, organizational alignment, and adaptive capacity—elements particularly relevant for schools navigating complex reform environments. Distributed leadership, as articulated by Spillane (2005), focuses on shared leadership practices, collaborative decision-making, and the cultivation of leadership capacity across organizational levels—an approach well-suited to contexts where formal leadership resources may be limited.

The relevance of these leadership frameworks to the Maldivian context is heightened by several contextual factors. First, the geographic dispersion of schools creates natural conditions for distributed leadership approaches, as principals cannot be physically present across multiple sites and must therefore cultivate leadership capacity among teaching staff. Second, the implementation of international curricula in a culturally distinct context requires strategic adaptation and alignment—core

competencies of strategic leadership. Third, the ongoing process of educational decentralization in the Maldives necessitates leadership approaches that balance national policy directives with local contextual responsiveness.

Critically, the relationship between leadership practices and student outcomes is not direct but mediated through multiple organizational processes, with teachers' pedagogical skills representing the most proximate and powerful mediating mechanism. Research consistently demonstrates that leadership influences student learning primarily through its impact on teaching quality (Shen et al., 2020; Tan et al., 2021). Teachers' pedagogical skills—encompassing lesson design, classroom management, differentiated instruction, assessment literacy, and inclusive practices—serve as the crucial conduit through which leadership vision and organizational conditions translate into improved student learning (Kyriacou, 2009; Pastore et al., 2023). In the Maldivian context, where teachers often work in relative isolation on distant islands, the quality of pedagogical practice becomes particularly consequential for student outcomes.

Despite the theoretical importance of these leadership and pedagogical factors, empirical research examining their interrelationships within the Maldivian context remains limited. While some studies have investigated aspects of instructional leadership (Shafeeu, 2019; Shujau-Abdul-Raheem, 2023) and teacher quality (Waseela, 2022; Waheed et al., 2025), no comprehensive study has examined the integrated relationships among strategic leadership, distributed leadership, teachers' pedagogical skills, and school performance within a validated structural model. This research gap is particularly significant given the Maldives' unique contextual characteristics as a small-island, 100% Muslim nation undergoing educational decentralization—characteristics that may moderate the applicability of leadership theories developed in Western, resource-abundant contexts.

This study, therefore, addresses a critical need for contextually-grounded research that examines how strategic and distributed leadership practices, mediated through teachers' pedagogical skills, influence school performance in Maldivian secondary schools. By developing and validating a structural model that integrates these key constructs, this research aims to provide evidence-based insights that can

inform leadership development, teacher professional growth, and policy formulation in the Maldives and similar small-island education systems facing comparable challenges of geographic dispersion, resource constraints, and the need for quality improvement amidst rapid educational expansion.

1.2 STATEMENT OF THE PROBLEM

Despite substantial government investment and numerous policy initiatives aimed at improving educational quality, secondary schools in the Republic of Maldives continue to demonstrate persistently low levels of academic performance. Data from the Ministry of Education (2024) reveals concerning trends in student achievement, with only 28.73% of students passing eight or more subjects in the 2022/23 academic year—a marginal improvement from previous years but still far below national expectations. This pattern of underachievement is particularly evident in core subjects such as Mathematics (59.5% pass rate in 2023) and English Language (70.6% pass rate in 2023), which are essential for progression to higher education and meaningful workforce participation (Ministry of Education, 2024).

The persistence of these performance challenges is especially troubling given the strategic importance of secondary education in the Maldives. Lower Secondary Education (LSE) serves as a critical bridge between primary schooling and higher secondary or vocational pathways, yet its effectiveness in preparing students for further education and employment remains questionable. The World Bank Report (2012) noted that transition rates to higher secondary education and higher education institutions (HEIs) in the Maldives remain low, with Gross Enrollment Rates (GER) in higher education at approximately 6%—comparable to much poorer nations like Bangladesh, Nepal, and Pakistan. This suggests that inadequate preparation at the LSE level creates a significant bottleneck in the educational pipeline, limiting opportunities for national human capital development.

The Maldivian government has implemented several reform initiatives to address these performance issues, including the "60 Percent Pass Policy" (Ministry of Education, 2010a), shifts toward formative assessment, and continuous professional development programs (PDPs) for teachers and school leaders. However, these interventions have yielded only modest improvements, suggesting that deeper, systemic factors related to school leadership and teaching quality may be impeding meaningful progress. Research by Fikuree et al. (2021) found that while Maldivian principals are increasingly familiar with strategic planning principles, their implementation tends to be inconsistent, often prioritizing administrative coordination over instructional leadership. Similarly, Shujau-Abdul-Raheem (2023) observed that although most school leaders communicate their schools' vision and mission, these ideals are not yet fully embedded within daily teaching and learning processes.

The theoretical literature provides compelling evidence that school leadership—particularly strategic and distributed leadership—plays a crucial role in shaping organizational conditions that support effective teaching and learning. Strategic leadership, characterized by vision-setting, long-term planning, and organizational alignment (Davies & Davies, 2004), has been shown to enhance school performance by creating coherent instructional environments and mobilizing resources toward shared goals (Tan et al., 2021; Jaafar et al., 2022). Similarly, distributed leadership, which involves sharing leadership responsibilities across multiple actors (Spillane, 2005), fosters collaboration, professional trust, and collective responsibility—factors that have been positively associated with improved teaching quality and student outcomes (Bellibas, Gümüş, & Liu, 2020; Kılınç, Polatean, & Çepni, 2023).

In the Maldivian context, however, empirical evidence regarding the effectiveness of these leadership approaches remains limited. While studies by Azeez (2020) and Waheed (2025) have noted that distributed leadership is gradually gaining recognition, its implementation continues to face barriers related to hierarchical school traditions and limited teacher autonomy. Furthermore, the mediating role of teachers' pedagogical skills in translating leadership influence into improved student outcomes has not been sufficiently examined within the Maldivian setting. International research consistently identifies pedagogical competence—encompassing lesson design,

classroom management, assessment literacy, and inclusive practices—as the primary mechanism through which leadership affects student learning (Leithwood et al., 2020; Shen et al., 2020; Pastore et al., 2023). In the Maldives, studies by Waseela (2022) and Waheed et al. (2025) suggest that while teachers demonstrate strong foundational pedagogical skills, there remains room for improvement in areas such as differentiated instruction, technology integration, and collaborative pedagogy.

1.2.1 Research Gap

This study addresses three critical gaps in the existing literature.

1.2.1.1 Contextual Gap

Most leadership research has been conducted in Western, resource-abundant educational systems, with limited attention to small-island developing contexts like the Maldives. The unique geographic, cultural, and administrative characteristics of the Maldivian education system—including its island dispersion, reliance on international curricula, and ongoing decentralization—necessitate context-specific investigation of leadership effectiveness.

1.2.1.2 Theoretical Gap

While strategic and distributed leadership are often studied separately, their complementary and potentially synergistic effects have not been sufficiently examined, particularly in relation to how they jointly influence teaching quality and school performance. This study addresses this gap by investigating both leadership approaches within an integrated framework.

1.2.1.3 Empirical Gap

Despite the theoretical importance of teachers' pedagogical skills as a mediator between leadership and student outcomes, few studies have empirically tested this mediation pathway in the Maldivian context. This study provides rigorous quantitative analysis of how strategic and distributed leadership practices influence school performance through their impact on teachers' pedagogical competence.

The persistent underperformance of Maldivian secondary schools, despite substantial investments and policy initiatives, suggests that conventional reform approaches may be overlooking critical leverage points related to leadership and teaching quality. This study therefore seeks to investigate the complex interrelationships among strategic leadership practices, distributed leadership practices, teachers' pedagogical skills, and school performance. Specifically, it addresses the following central problem:

To what extent do strategic and distributed leadership practices influence school performance in Maldivian secondary schools, and how are these relationships mediated by teachers' pedagogical skills?

By examining these relationships through a validated structural model, this research aims to provide evidence-based insights that can inform more effective leadership development, teacher professional growth, and policy formulation in the Maldives and similar educational contexts facing challenges of quality improvement amidst geographic dispersion and resource constraints.

1.3 RESEARCH OBJECTIVES

This study aims to:

1. Examine the levels of Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers' Pedagogical Skills (TPS), and School Performance (SP) in Maldivian secondary schools.

2. Validate the revised hypothesised model by assessing the validity and reliability of the measurement models for SLP, DLP, TPS, and SP.
3. Investigate the direct relationships among leadership constructs (SLP, DLP), teachers' pedagogical skills (TPS), and school performance (SP).
4. Explore the mediating role of teachers' pedagogical skills in the relationships between leadership practices (SLP and DLP) and school performance.
5. Test the overall validity and reliability of the revised hypothesised Structural Equation Model.

1.4 RESEARCH QUESTIONS

This study is guided by the following research questions, which align with the empirical testing in Chapters 4 and 5:

- RQ1:** What are the levels of strategic leadership practices, distributed leadership practices, teachers' pedagogical skills, and school performance among secondary schools in the Maldives?
- RQ2:** Is the revised hypothesised model valid and reliable?
- RQ3:** What are the direct and significant relationships between strategic leadership practices, distributed leadership practices, and teachers' pedagogical skills with school performance among secondary schools in the Maldives?
- RQ4:** What are the direct and significant relationships between strategic leadership practices and distributed leadership practices with teachers' pedagogical skills among secondary schools in the Maldives?
- RQ5:** Do teachers' pedagogical skills significantly mediate the relationships between (a) strategic leadership practices and school performance, and (b) distributed leadership practices and school performance among secondary schools in the Maldives?

1.5 HYPOTHESES

Based on the conceptual framework and research questions, the following hypotheses are proposed for empirical testing:

- H₁:** The measurement model for Strategic Leadership Practices demonstrates validity and reliability.
- H₂:** The measurement model for Distributed Leadership Practices demonstrates validity and reliability.
- H₃:** The measurement model for Teachers' Pedagogical Skills demonstrates validity and reliability.
- H₄:** The measurement model for School Performance demonstrates validity and reliability.
- H₅:** Strategic Leadership Practices have a direct and significant relationship with School Performance.
- H₆:** Distributed Leadership Practices have a direct and significant relationship with School Performance.
- H₇:** Teachers' Pedagogical Skills have a direct and significant relationship with School Performance.
- H₈:** Teachers' Pedagogical Skills mediate the relationship between Strategic Leadership Practices and School Performance.
- H₉:** Teachers' Pedagogical Skills mediate the relationship between Distributed Leadership Practices and School Performance.
- H₁₀:** The revised hypothesised Structural Equation Model demonstrates overall validity and reliability.

1.6 SIGNIFICANCE OF THE STUDY

This research holds substantive implications across theoretical, practical, and policy domains, particularly within the underexplored context of small-island developing states. By examining the interrelationships among strategic leadership, distributed leadership, teachers' pedagogical skills, and school performance, the study offers contributions that extend beyond the Maldivian setting to inform educational improvement efforts in comparable systems worldwide.

1.6.1 Theoretical Significance

The study advances educational leadership theory by integrating two prominent yet often siloed frameworks: strategic leadership and distributed leadership. Rather than positioning these as competing paradigms, the research examines their complementary roles within a unified structural model. This addresses a gap in the literature, where strategic leadership is frequently associated with top-down, vision-driven processes (Davies & Davies, 2004), while distributed leadership emphasizes shared agency and collaborative practice (Spillane, 2005). Investigating their interplay within a single empirical framework contributes to emerging discourse on *leadership hybridity*—the notion that effective leadership in complex environments requires both directive and participatory elements (Agarwal et al., 2021; Canterino et al., 2020).

Furthermore, the study tests the mediating role of teachers' pedagogical skills, thereby engaging with the central premise of the *leadership-for-learning* paradigm: that leadership influences student outcomes primarily through its impact on teaching quality (Leithwood et al., 2020; Shen et al., 2020). By situating this mediation model within a 100% Muslim small-island, and decentralizing context, the research also speaks to questions of *theoretical portability*—the extent to which frameworks developed in Western, resource-abundant systems retain explanatory power in markedly different settings. The validation of measurement models for each construct contributes to the ongoing refinement of leadership and pedagogy instruments for use in diverse cultural and institutional environments.

1.6.2 Practical and Policy Implications

For policymakers and educational administrators in the Maldives, this study provides an evidence-based framework for designing leadership development programs, teacher professional learning initiatives, and school improvement strategies. If the proposed relationships are supported, the findings would underscore the importance of cultivating both strategic coherence and distributed collaboration within schools. This would suggest that leadership training should move beyond conventional emphasis on managerial and administrative competence to include capacity-building in areas such as collaborative decision-making, instructional mentoring, and the facilitation of professional learning communities.

The focus on teachers' pedagogical skills as a mediating variable highlights the critical role of sustained, classroom-focused professional development. In a system where teachers often work in relative isolation across dispersed islands, the findings could inform the design of networked professional learning models that combine school-based collaboration with virtual communities of practice. For school leaders, the validated measurement instruments offer diagnostic tools for self-assessment and organizational benchmarking, supporting data-informed leadership development and school improvement planning.

At the policy level, the study addresses a pressing need for context-sensitive frameworks that guide the ongoing decentralization of Maldivian education. By clarifying how leadership practices interact with teaching quality to influence school performance, the research provides empirical grounding for policies related to leadership standards, resource allocation, professional learning systems, and accountability mechanisms. This is particularly relevant for the Ministry of Education's Educational Supervision and Quality Improvement Division (ESQID), which oversees school quality and improvement initiatives nationwide.

1.6.3 Methodological Contribution

The study employs a rigorous quantitative methodology, including Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM), within a context where educational research has often relied on descriptive or qualitative approaches. This demonstrates the feasibility and value of advanced statistical techniques in small-island developing settings, thereby strengthening local research capacity and methodological diversity. The development and validation of contextually adapted instruments for measuring strategic leadership, distributed leadership, pedagogical skills, and multidimensional school performance offer researchers and practitioners, reliable tools for future assessment and inquiry.

1.6.4 Contribution to Islamic Educational Leadership

As a nation with a constitutionally Islamic framework, the Maldives presents a valuable context for examining how universal leadership and pedagogical principles intersect with faith-informed values and practices. The study's emphasis on distributed leadership resonates with the Islamic concept of *shura* (consultation), while the focus on pedagogical excellence aligns with the ethical imperative of *ihsan* (perfection in work). By grounding its inquiry in both international scholarship and local cultural realities, the research contributes to the developing field of Islamic educational leadership, which seeks to integrate evidence-based practices with religious and ethical principles (Hussain & Safdar, 2021).

1.6.5 Broader Relevance for Small-Island and Developing Contexts

The challenges facing Maldivian education—including geographic dispersion, resource constraints, and the tension between international curricula and local needs—are shared by many small-island and developing states. The insights generated by this study therefore hold transferable value for educational policymakers, leaders, and researchers in comparable settings. In particular, the examination of how leadership and pedagogy interact in resource-constrained environments offers a framework for optimizing human and social capital in systems where material resources are limited.

In summary, this study addresses significant gaps in both theoretical understanding and practical knowledge regarding the leadership–pedagogy–performance nexus in under-researched educational contexts. Its findings are poised to inform leadership development, teacher professional growth, policy formulation, and future research in the Maldives and beyond, thereby contributing to the broader global effort to enhance educational quality and equity.

1.7 CONCEPTUAL FRAMEWORK

The conceptual framework of this study is theoretically anchored in the integration of three established yet distinct intellectual traditions: **strategic leadership theory, distributed leadership theory, and pedagogical effectiveness research**. This integrative approach is necessitated by the complex and multidimensional nature of school improvement in the Maldivian context, where leadership must be both vision-driven and collaboratively enacted, and where teaching quality serves as the critical bridge between leadership intent and student outcomes. The framework posits that school performance is not a direct product of leadership alone but emerges from a dynamic interaction between leadership structures, teaching practices, and contextual factors.

1.7.1 Theoretical Underpinnings

The primary theoretical anchor for the strategic leadership construct is derived from the work of Davies and Davies (2004, 2009), who conceptualize strategic leadership not as a position but as a process involving direction-setting, organizational alignment, capacity building, and strategic learning. This perspective is particularly relevant for the Maldivian education system, which operates within a decentralizing policy environment and must navigate the implementation of international curricula while responding to local needs. Strategic leadership in this context entails the ability to formulate a coherent instructional vision, align resources with long-term goals, and foster organizational adaptability in response to changing internal and external demands.

Complementing this is the distributed leadership framework advanced by Spillane (2005), Gromn (2002), and Elmore (2000), which reconceptualizes leadership as a practice distributed across multiple actors and situations. This theory challenges the heroic, solo-leader model and emphasizes that effective leadership in schools is enacted through the interactions of formal and informal leaders, followers, and their context. For the geographically dispersed schools of the Maldives, where principals cannot be omnipresent, distributed leadership offers a pragmatic model for building leadership density, fostering professional collaboration, and enhancing collective responsibility for instructional improvement.

The pedagogical dimension of the framework is informed by Kyriacou's (2009) conceptualization of social pedagogy, which extends beyond mere instructional technique to encompass the holistic development of the child. This includes care and welfare, inclusion, socialization, academic support, and social education. This broader view aligns with the Maldivian National Curriculum Framework's emphasis on nurturing students who are not only academically proficient but also ethically grounded, socially responsible, and equipped with life skills. The framework posits that teachers' pedagogical skills are the primary mechanism through which educational goals are realized in the classroom.

These theoretical strands are integrated and given explanatory power through the Upper Echelons Theory (Hambrick & Mason, 1984), which posits that organizational outcomes are influenced by the cognitive bases, values, and experiences of top management. In the school context, this theory suggests that the strategic choices and leadership approaches of principals and senior leaders—shaped by their personal characteristics and organizational capabilities—fundamentally shape the school's direction, culture, and ultimately, its performance. This theory provides a meta-framework for understanding how leadership attributes and decisions filter through the organization to affect teaching and learning.

1.7.2 The Proposed Model and Variable Relationships

The conceptual model, depicted in Figure 1.1, specifies a set of hypothesized relationships among four latent constructs: Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers' Pedagogical Skills (TPS), and School Performance (SP). The model is parsimonious yet comprehensive, focusing on the core pathways through which leadership is theorized to influence educational outcomes.

1.7.2.1 Strategic Leadership Practices (SLP)

SLP is operationalized as a second-order latent construct comprising two interrelated dimensions: *Organizational Capabilities* and *Personal Characteristics*. Organizational Capabilities include strategic orientation, translation, alignment, intervention, and competence, reflecting the leader's capacity to steer the organization. Personal Characteristics include restlessness, adaptive capacity, absorptive capacity, and wisdom, reflecting the cognitive and behavioral attributes of the leader. This bifactor structure acknowledges that strategic leadership is a blend of organizational process and individual agency.

1.7.2.2 Distributed Leadership Practices (DLP)

DLP is operationalized through four dimensions: Quality Distribution of Support, Quality Distribution of Supervision, Cooperation in the Leadership Team, and Participative Decision-Making. This construct captures the extent to which leadership functions are shared, collaborative, and embedded in the daily interactions of the school community rather than concentrated in a single individual.

1.7.2.3 Teachers' Pedagogical Skills (TPS)

TPS is conceptualized as a multidimensional construct encompassing care and welfare, inclusion, socialization, academic support, and social education. This reflects a holistic view of teaching that integrates academic instruction with the social, emotional, and ethical development of students.

1.7.2.4 School Performance (SP)

SP is defined multidimensionally in alignment with the goals of the Maldivian National Curriculum Framework, comprising students' sufficient knowledge, right skills, positive attitude, and appropriate values. This moves beyond narrow academic metrics to capture the holistic outcomes of schooling.

1.7.3 Hypothesized Key Pathways

The model hypothesizes several key pathways:

1.7.3.1 Direct Effects

SLP and DLP are each hypothesized to have a direct, positive influence on SP (H₅, H₆). This reflects the premise that effective leadership creates the organizational conditions—such as a clear direction, supportive culture, and efficient structures—that facilitate better student outcomes. Furthermore, TPS is hypothesized to have a direct, positive influence on SP (H₇), affirming the centrality of teaching quality.

1.7.3.2 Leadership-to-Pedagogy Pathways

SLP and DLP are each hypothesized to have a direct, positive influence on TPS (integrated into RQ4). This is a critical linkage, suggesting that leaders influence student learning indirectly by enhancing the quality of instruction. Strategic leaders may do this by providing a clear instructional vision and targeted resources, while distributed leaders may foster collaborative environments that promote professional learning and innovation.

1.7.3.3 Mediation Pathways

The core proposition of the framework is that TPS mediates the relationships between both leadership constructs and school performance (H_8 , H_9). This posits that the influence of SLP and DLP on SP is not primarily direct but is channeled through their capacity to improve teachers' classroom practices. This mediation hypothesis tests the fundamental logic of the leadership-for-learning chain.

1.7.3.4 Integrated Model Validity

Finally, the entire revised model is hypothesized to be valid and reliable (H_{10}), representing a good fit to the empirical data from Maldivian secondary schools.

This framework provides a coherent, testable model for investigating the complex dynamics of school improvement. It moves beyond asking *whether* leadership matters to probing *how* specific forms of leadership matter, through *what mechanisms*, and in relation to *which dimensions* of school performance. By grounding this investigation in the unique context of the Maldives, the study aims to produce findings that are both theoretically informative and practically valuable for policymakers and practitioners seeking to leverage leadership and teaching quality for systemic educational improvement.

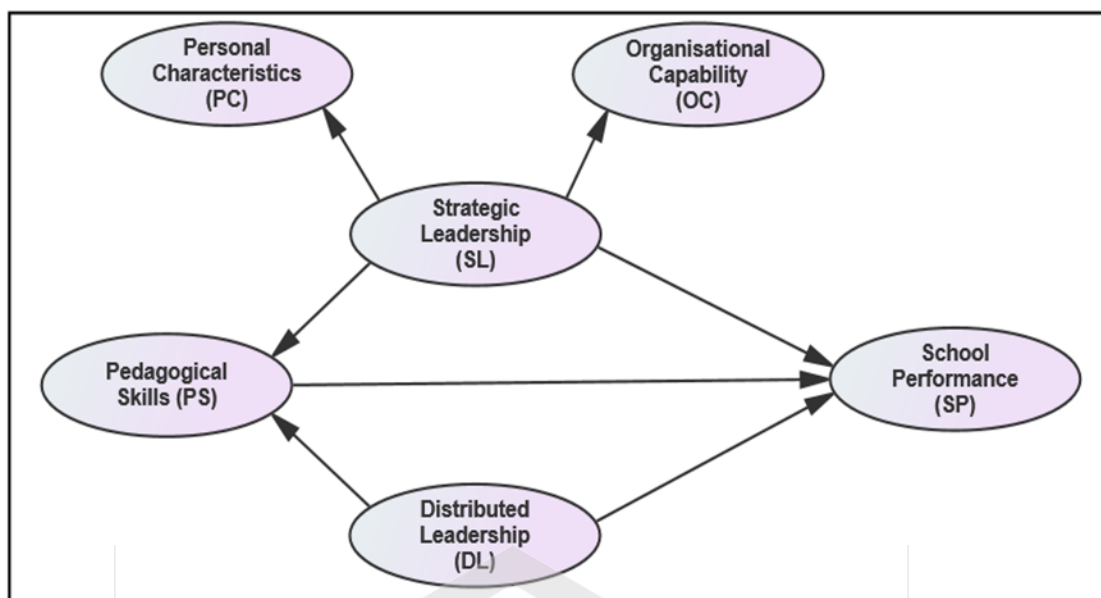


Figure 1.1. The hypothesized model with SLP and DLP as exogenous variables, TPS as a mediating variable, and SP as the endogenous variable, showing all hypothesized direct and indirect paths

1.8 DELIMITATIONS OF THE STUDY

Delimitations represent the conscious choices made to define the parameters of the research. These decisions are theoretically and pragmatically justified but inherently narrow the focus of the inquiry.

1.8.1 Contextual and Geographic Focus

The study is delimited to public and private secondary schools within the Republic of Maldives. It does not include primary schools, higher secondary schools (grades 11-12 in isolation), or tertiary institutions. This focus is justified as Lower Secondary Education (LSE) represents a critical, policy-prioritized stage with documented performance challenges. While findings may offer insights for other levels, they are not directly generalizable to them.

1.8.2 Respondent Scope

Data collection is restricted to school administrators, defined as principals, deputy principals, leading teachers, and individuals in key decision-making roles, generally the school management team (SMT). The perspectives of classroom teachers, students, parents, and external stakeholders are not included. This delimitation is based on the research objective to assess *leadership practices* and their perceived impact; school administrators are the most direct agents and observers of these practices. However, it means the study captures leadership from the perspective of leaders themselves, not from the recipients of leadership.

1.8.3 Construct Boundaries

The investigation is confined to four core constructs: **Strategic Leadership Practices (SLP)**, **Distributed Leadership Practices (DLP)**, **Teachers' Pedagogical Skills (TPS)**, and **School Performance (SP)**. Other potent variables known to influence school outcomes—such as socio-economic status (SES) of students, school resource levels, community engagement, or specific national policy initiatives—are not included as primary variables in the model. Their omission is a delimitation that allows for a parsimonious, in-depth test of the specified leadership-pedagogy-performance pathways but acknowledges that the model explains only a portion of the variance in school performance.

1.8.4 Temporal Boundary

The study employs a **cross-sectional design**, collecting data at a single point in time. This delimitation is pragmatic, given time and resource constraints, but it explicitly precludes the investigation of causal dynamics, developmental sequences, or the long-term sustainability of observed relationships.

1.9 DEFINITION OF OPERATIONAL TERMS

The following operational definitions provide conceptual and contextual clarity for the key constructs and variables central to this investigation. These definitions are grounded in the established literature and have been contextually adapted to reflect the unique educational landscape of the Maldives. Their explicit articulation is essential for ensuring measurement validity, theoretical precision, and replicability of the research.

1.9.1 Strategic Leadership Practices (SLP)

1.9.1.1 Conceptual Definition

A multidimensional leadership approach characterized by the formulation of a long-term organizational vision, the alignment of people and resources toward strategic goals, and the adaptive capacity to navigate complex educational environments (Davies & Davies, 2004).

1.9.1.2 Operational Definition

In this study, SLP is measured as a second-order latent variable comprising two first-order dimensions:

1. Organizational Capabilities (OC)

Encompassing Strategic Orientation, Strategic Translation, Strategic Alignment, Strategic Intervention, and Strategic Competence. This dimension reflects the leader's ability to set direction, translate strategy into action, ensure coherence, manage change, and build core organizational strengths.

2. Personal Characteristics (PC)

Encompassing Restlessness, Adaptive Capacity, Absorptive Capacity, and Wisdom. This dimension reflects the cognitive and behavioral attributes of the leader, including a drive for improvement, flexibility, learning agility, and ethical, context-sensitive judgment.

1.9.2 Distributed Leadership Practices (DLP)

1.9.2.1 Conceptual Definition

A leadership model conceptualized not as the role of an individual but as a practice distributed across multiple actors, where leadership functions emerge from the interactions of leaders, followers, and their situation (Spillane, 2005).

1.9.2.2 Operational Definition

For this research, DLP is operationalized through four distinct but interrelated dimensions observable in school settings:

1. Quality Distribution of Support (DSP)

The degree to which instructional and professional support functions are effectively shared among members of the leadership team.

2. Quality Distribution of Supervision (DSV)

The extent to which instructional supervision and performance monitoring responsibilities are collaboratively undertaken.

3. Cooperation in the Leadership Team (CLT)

The level of collaboration, information sharing, and joint purpose exhibited among formal leaders within the school.

4. Participative Decision-Making (PDM)

The breadth and depth of staff involvement in school-level decision-making processes that affect teaching, learning, and school policy.

1.9.3 Teachers' Pedagogical Skills (TPS)

1.9.3.1 Conceptual Definition

The integrated professional competencies that enable effective teaching, extending beyond subject knowledge to encompass the holistic development of students, including their academic, social, emotional, and ethical growth (Kyriacou, 2009).

1.9.3.2 Operational Definition

This construct is measured as a multidimensional latent variable reflecting five key domains of teacher practice:

1. Care and Welfare (CWF)

Practices that ensure students' physical safety, emotional well-being, and a supportive learning environment.

2. Inclusion (INC)

Instructional and relational strategies that ensure all students, regardless of background or ability, feel valued, engaged, and able to participate fully in classroom and school life.

3. Socialization (SCZ)

The intentional fostering of prosocial behaviors, values, and norms that enable students to function positively within society.

4. Academic Support (ASP)

The pedagogical strategies used to diagnose learning needs, deliver content effectively, scaffold understanding, and foster students' cognitive development and academic achievement.

5. Social Education (SED)

The explicit teaching of knowledge, skills, and values related to personal development, citizenship, health, and moral reasoning (the pastoral curriculum).

1.9.4 School Performance (SP)

1.9.4.1 Conceptual Definition

The holistic outcomes of schooling, reflecting the extent to which a school fulfills its broad educational mandate as defined by national curriculum goals.

1.9.4.2 Operational Definition

In alignment with the Maldivian National Curriculum Framework (2015), SP is operationalized not by external examination results alone but by four core student outcome domains:

1. Students' Sufficient Knowledge (SKE)

The attainment of essential literacy, numeracy, and subject-specific knowledge that provides a foundation for lifelong learning.

2. Students' Right Skills (RSL)

The development of cognitive, creative, communicative, and life skills (e.g., critical thinking, problem-solving, entrepreneurship) necessary for personal and professional success.

3. Students' Positive Attitude (PAT):

The cultivation of motivation, resilience, confidence, and a constructive orientation toward learning and self-improvement.

4. Students' Appropriate Values (AVL)

The internalization of ethical, Islamic, democratic, and community-oriented values that guide responsible behavior and citizenship.

1.9.5 Mediating Role

1.9.5.1 Conceptual Definition

A statistical relationship in which a third variable (the mediator) transmits the effect of an independent variable onto a dependent variable.

1.9.5.2 Operational Definition

In this study, it is hypothesized that Teachers' Pedagogical Skills (TPS) functions as a mediator. This means the influence of Strategic and Distributed Leadership Practices on School Performance is posited to occur indirectly by first enhancing TPS, which in turn leads to improved SP. This pathway is tested statistically to determine if the direct relationship between leadership and performance diminishes or changes when the mediator is accounted for.

1. Secondary School (Contextual Definition)

For the purposes of this study, refers specifically to institutions providing Lower Secondary Education (LSE: Grades 7-10) in the Maldives, whether public or private, following the national curriculum and preparing students for the national Secondary School Certificate (SSC) examinations and International General Certificate of Secondary Education (IGCSE).

2. School Administrator / School Management Team (SMT)

The target respondent group, defined as individuals holding formal leadership or key coordination roles within the secondary school. This includes the Principal, Deputy Principal(s), Leading Teachers, Heads of Department (where applicable), and the School Administrator. These individuals are collectively responsible for strategic direction, instructional supervision, and daily school management.

By anchoring these constructs in both international theory and local policy (e.g., the NCF), these operational definitions ensure that the study investigates phenomena that are globally relevant yet meaningfully contextualized within the Maldivian educational reality.

1.10 CHAPTER SUMMARY

This chapter has established the foundational framework for a comprehensive investigation into the complex dynamics of leadership and pedagogy within Maldivian secondary schools. It commenced by delineating the unique contextual backdrop of the Maldives—a small-island developing state confronting significant geographic, logistical, and resource-based challenges in its pursuit of educational quality. Despite substantial national investment and progressive policy initiatives, persistent underperformance in secondary education, as evidenced by stagnant examination outcomes and low transition rates to higher education, underscores a pressing need for evidence-based insights into the core drivers of school effectiveness.

The **Statement of the Problem** articulated a clear and critical research gap: while strategic and distributed leadership are globally recognized as pivotal to school improvement, and teachers' pedagogical skills are established as the primary mechanism for student learning, their integrated relationships remain empirically untested within the Maldivian context. The study addresses this gap by proposing a model that moves beyond asking *if* leadership matters to investigating *how* specific

leadership practices matter, through *what pathways*, and to *which dimensions* of holistic school performance.

Guided by this problem statement, the chapter presented clearly defined **Research Objectives** and corresponding **Research Questions** structured to guide a systematic empirical inquiry. These objectives progress logically from descriptive assessment to measurement validation, hypothesis testing, and finally, model evaluation. The explicitly stated **Hypotheses** provide testable propositions derived directly from the conceptual framework, offering a roadmap for the subsequent quantitative analysis.

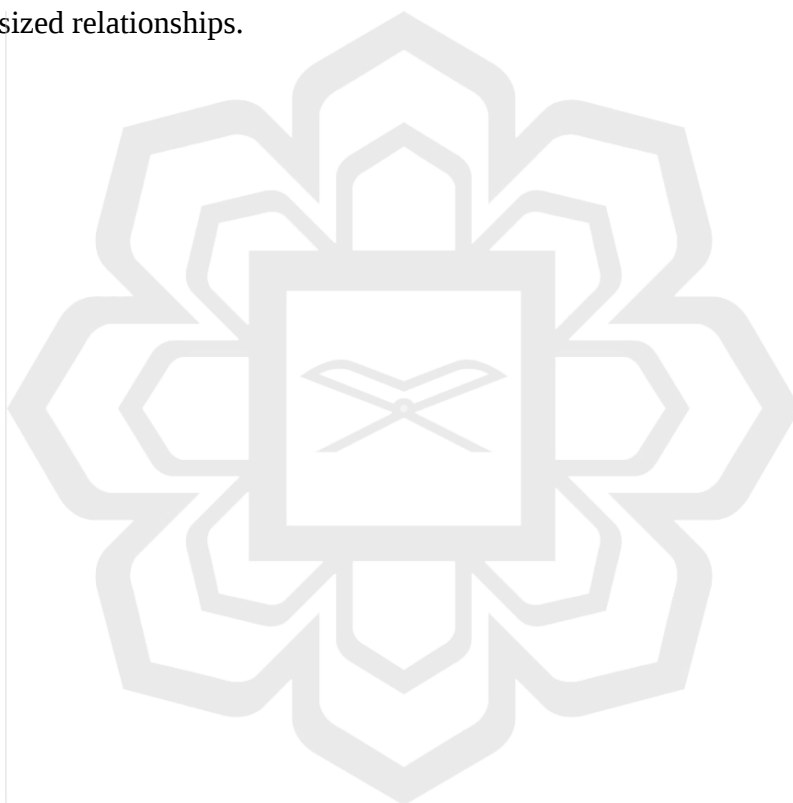
The **Significance of the Study** was elaborated across multiple domains. Theoretically, it contributes to leadership hybridity discourse and tests the portability of established frameworks to a unique developing context. Practically, it promises actionable insights for Maldivian policymakers, the Ministry of Education's divisions (notably ESQID), and school leaders, informing leadership development, teacher professional growth, and data-driven school improvement planning. Its methodological rigor and contextual grounding also offer a replicable model for research in similar small-island states.

The core of the chapter is the **Conceptual Framework**, which is theoretically anchored in the integration of Strategic Leadership Theory (Davies & Davies), Distributed Leadership Theory (Spillane, Gromn), and Pedagogical Effectiveness research (Kyriacou), all viewed through the lens of Upper Echelons Theory. This framework posits that School Performance is influenced directly by Strategic Leadership Practices and Distributed Leadership Practices, and indirectly through the mediating role of Teachers' Pedagogical Skills. This model provides a coherent, testable representation of the hypothesized causal pathways under investigation.

Finally, the chapter transparently outlined the study's delimitations defining its intentional boundaries (focus on secondary schools, administrator respondents, cross-sectional design) and acknowledging inherent constraints regarding causal inference and generalizability. Clear **Operational Definitions** were provided for all key constructs, ensuring conceptual precision and measurement clarity aligned with both

international literature and Maldivian policy documents like the National Curriculum Framework.

In sum, Chapter 1 has systematically constructed the rationale, focus, and theoretical underpinnings for a study designed to generate meaningful, context-sensitive knowledge. By validating the proposed model, this research aims to illuminate the interdependent roles of leadership and teaching in shaping school outcomes, thereby offering evidence to guide the next phase of educational improvement in the Republic of Maldives. The subsequent chapter will engage in a critical review of the literature pertinent to each of the core constructs and their hypothesized relationships.



CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

2.1.1 Purpose, Scope, and Critical Approach

This chapter constitutes a comprehensive, analytical, and integrative review of the scholarly literature pertinent to the investigation of how Strategic Leadership (SL) and Distributed Leadership (DL) practices influence School Performance (SP) within Maldivian secondary schools, with Teachers' Pedagogical Skills (PS) postulated as a critical mediating mechanism. The purpose of this review is multifaceted and extends beyond a mere descriptive cataloguing of prior studies. Primarily, it aims to construct a robust theoretical and conceptual bedrock for the research by critically interrogating, synthesizing, and integrating relevant leadership and pedagogical theories. This involves evaluating their explanatory power, identifying points of convergence and divergence, and justifying their combined application to the unique, archipelagic context of the Maldives. Secondly, the review undertakes a critical analysis of the core constructs—SL, DL, PS, and SP—examining their evolving definitions, key dimensions, operationalizations, and the empirical evidence for their interrelationships from global, regional, and where available, local Maldivian studies. A critical lens is applied to assess methodological rigour, contextual applicability, and the generalizability of findings. Thirdly, and fundamentally, this chapter aims to identify and articulate with precision the research gaps that the current study seeks to address. These gaps are not merely stated but are derived from the synthesis, highlighting limitations in existing theoretical integration, a paucity of research in the Maldivian and similar small-island developing states contexts, and the need to empirically test the specific mediating role of pedagogical skills within the SL-DL-SP chain.

The scope of this review is deliberately targeted yet comprehensive within its defined boundaries. It encompasses contemporary leadership paradigms deemed most relevant to the challenges of 21st-century education, with a focused examination of Strategic and Distributed Leadership as complementary rather than competing

frameworks. It explores the construct of pedagogical skills beyond technical competence to include dimensions of social pedagogy and reflective practice, aligning with the active learning philosophy of the Maldivian National Curriculum Framework (NIE, 2015). Furthermore, it conceptualizes school performance as a multidimensional outcome inclusive of academic achievement, relevant skills, positive attitudes, and aligned values, thereby capturing a more holistic view of educational effectiveness. The approach is consistently critical and synthesizing, aiming to transform disparate pieces of literature into a coherent, logical argument that justifies the proposed research model and its hypothesized pathways.

2.1.2 Chapter Structure and Logical Flow

A coherent and logically progressive structure is paramount to address the examiners' valid concerns regarding fragmentation and poor sequencing. This chapter is therefore organized to build a cumulative argument, where each section provides the necessary foundation for the next. It begins by establishing a firm Theoretical Foundation and Framework (Section 2.2). This section moves decisively away from presenting a single, potentially misapplied theory in isolation. Instead, it engages in a critical discussion of theoretical options, culminating in the proposal and justification of an integrated SL-DL theoretical lens as the most appropriate underpinning for this study.

Following this theoretical grounding, the chapter proceeds to a detailed, critical dissection of the study's core variables. First, Strategic Leadership Practices (Section 2.3) are explored in depth, tracing their conceptual evolution from business management to educational leadership, analyzing their defining characteristics and models (e.g., Davies & Davies, 2004; Cheng, 2010), and reviewing methodological trends and key findings from empirical studies. This is followed by an equally thorough examination of Distributed Leadership Practices (Section 2.4), delving into its philosophical underpinnings, its various conceptual forms (Spontaneous, Intuitive, Institutionalized), and its empirical links to teacher empowerment and school improvement. The mediating variable, Teachers' Pedagogical Skills (Section 2.5), is then analysed, connecting its development theoretically and empirically to the practices of both strategic and distributed leadership. This section expands on the

knowledge bases of teaching (Shulman, 1987) and links them to the dimensions of active pedagogy mandated in the Maldives. The dependent variable, School Performance (Section 2.6), is subsequently conceptualized, arguing for a multidimensional definition that transcends narrow academic metrics to include skills, attitudes, and values, and reviewing factors that influence it.

The logical apex of the chapter is the Conceptual and Theoretical Model Development (Section 2.7). Here, the threads of theory and construct analysis are woven together. The integrated SL-DL framework from Section 2.2 is explicitly connected to the variables analysed in Sections 2.3-2.6, resulting in a detailed visual and narrative presentation of the study's hypothesized model. This model clearly depicts the proposed direct and indirect (mediated) relationships, directly addressing the examiners' request for clarity on variable linkages. Finally, this model gives rise to the formal Research Hypotheses (Section 2.8), which are stated as testable propositions flowing directly from the synthesized literature and the conceptual model. This structured progression—from theory, to construct analysis, to synthesis and model building, to hypothesis generation—ensures a seamless, academically rigorous narrative flow that meets doctoral standards.

2.2 THEORETICAL FOUNDATION AND FRAMEWORK

2.2.1 The Imperative for an Integrated Leadership Theory in Education

Leadership in educational institutions is an inherently complex, multifaceted endeavour that operates at the intersection of bureaucratic accountability, pedagogical innovation, community engagement, and cultural symbolism (Sergiovanni, 1983; Maxcy, 1991). This complexity renders singular, monolithic leadership theories inadequate for providing a complete explanatory framework. The initial consideration of Upper Echelons Theory (UET) (Hambrick & Mason, 1984) offered a valuable but partial lens. UET usefully emphasizes that organizational outcomes are, in part, reflections of the cognitive bases, values, and experiences of its top management team (TMT), providing a macro-level rationale for studying school leaders' strategic choices. However, as external and internal examiners astutely noted, UET has significant limitations in the school context. Its origins in corporate strategic

management, its focus on demographic proxies for cognition, and its primary concern with economic performance metrics make it a blunt instrument for analyzing the process-oriented, relational, and ethically charged work of instructional leadership and teacher development (Hambrick, 2007). It describes a potential *source* of influence (the top team) but lacks the granularity to explain the *processes* through which that influence permeates the organization to affect classroom practice—the very processes that are central to educational effectiveness.

Therefore, this study argues for a more nuanced and integrated theoretical perspective. It contends that the challenges facing Maldivian secondary schools—such as implementing a new National Curriculum Framework, improving pedagogical quality, and achieving holistic student outcomes—require leadership that is both *strategically agile* and *collectively capacious*. No single theory from the extant leadership canon adequately captures this dual requirement. Transformational leadership, while focusing on inspiring change, often remains leader-centric (Bass & Avolio, 1990). Instructional leadership, though directly focused on teaching and learning, can be overly prescriptive and principal-centred (Hallinger, 2011). The integrated framework proposed here consciously combines the macro-level, directional, and environmental focus of Strategic Leadership (SL) theory with the micro-level, relational, and empowerment focus of Distributed Leadership (DL) theory. This integration is not merely additive but synergistic, responding to the contemporary reality that effective school leadership necessitates the vision to set a compelling direction *and* the social architecture to distribute the agency needed to move collectively toward it.

2.2.2 Strategic Leadership Theory: Core Tenets and Educational Application

Strategic Leadership (SL) theory distinguishes itself within the broader leadership domain by its explicit, future-oriented focus on the leader's role in formulating, articulating, and sustaining an organization's competitive advantage or core purpose through strategic adaptation (Hitt, Ireland, & Hoskisson, 2007; Rowe, 2001). It concerns the *work of the organization in its environment*. In the educational domain, this translates to leadership that looks beyond the day-to-day operational management

of the school to engage deeply with questions of long-term viability, relevance, and improvement in a landscape of shifting policies, parental expectations, and resource constraints (Davies & Davies, 2004).

Key scholars have rigorously adapted SL to education. Cheng (2002b, 2010) provides a powerful contextualization by framing SL as a necessary evolutionary response to successive “waves” of educational reform. His model delineates a progression: from *Internal Leadership* focused on technical efficiency and goal achievement; to *Interface Leadership* focused on market competition, stakeholder satisfaction, and accountability; and finally, to *Future Leadership* focused on sustainable development, globalization/localization tensions, and fostering lifelong learning. This model is particularly useful for analyzing the Maldivian context, which exhibits pressures from all three waves simultaneously. Meanwhile, Davies and Davies (2004, 2009) offer a robust operationalization of SL through a framework of organizational capabilities and personal attributes. The capabilities include strategic alignment (connecting people to purpose), strategic translation (turning strategy into action), and strategic intervention (timing organizational change). The complementary personal attributes include restlessness (dissatisfaction with the status quo), absorptive capacity (the ability to learn and apply new knowledge), and adaptive capacity (the ability to change).

The theoretical contribution of SL to this study’s framework is foundational. It posits that SL practices establish the overarching “strategic architecture” of the school—its core direction, resource allocation priorities, and responsiveness to the external environment. This architecture creates the enabling (or disabling) conditions for all other school processes. It provides the strong theoretical rationale for hypothesizing a direct path from SL to SP, as strategic choices about resource allocation, programme prioritization, and goal focus should logically influence overall school outcomes. Furthermore, it theorizes an indirect path by suggesting that a strategically led school should intentionally design structures and cultivate a culture that empowers its staff, thereby linking logically to the principles of DL.

2.2.3 Distributed Leadership Theory: Principles and Practice in Schools

Distributed Leadership (DL) theory represents a paradigmatic shift away from the “heroic,” individual-centric models of leadership. It fundamentally reconceptualizes leadership as a practice that is *stretched over* the social and situational context of the organization, emerging from the interactions of multiple actors—both formal and informal—with their tools and setting (Spillane, 2006; Gronn, 2002). Its core premise is ontological: leadership is not merely what a person in authority does, but a dynamic system of influence. This perspective is exceptionally apt for schools, which are professional bureaucracies reliant on the expertise and discretionary effort of teachers.

Three foundational strands inform this study’s understanding of DL. Spillane’s (2006) distributed perspective focuses on practice, analysing the *interactions* between leaders, followers, and their situation through the use of *artefacts* (tools, routines, structures). Gronn’s (2002) conceptualization introduces the ideas of “concerted action” and “hybrid leadership,” describing how individual initiatives coalesce into collective practice. Most crucially for linking leadership to the core technology of schooling, Elmore (2000) argues that improvement in instruction requires leadership to be distributed “according to the contours of expertise,” making it a necessity for pedagogical change, not just a democratic ideal.

Dimensions of DL critical to this study include: the development of a shared mission and goals that guide collective action; fostering a collaborative school culture of trust and mutual responsibility; implementing structures for participative decision-making that utilize staff expertise; and the intentional design of leadership practices and routines that span formal roles (Gordon, 2005; Harris, 2008). The primary theoretical pathway of DL’s influence is distinct from that of SL. DL theory posits that its impact is predominantly mediated through the development of human and social capital within the teaching staff. By empowering teachers, fostering collaboration, and creating communities of practice, DL enhances collective teacher efficacy, promotes professional learning, and directly shapes the Teachers’ Pedagogical Skills that are enacted in classrooms. Its direct effect on broad school performance metrics is theorized to be weaker than its potent indirect effect through improving the instructional core (Leithwood et al., 2006).

2.2.4 Synthesis: An Integrated SL-DL Framework as the Study's Theoretical Underpinning

The central theoretical argument of this study is that Strategic Leadership and Distributed Leadership are not antithetical but are complementary and mutually reinforcing theoretical lenses, each addressing critical but different aspects of the leadership required for contemporary school improvement. They form an integrated framework where SL provides the “what” and “why,” while DL enables the “how.”

A strategically led school without effective distribution risks becoming an organization with a compelling vision that remains inert, failing to mobilize the expertise and commitment needed for implementation. This can lead to the “decoupling” of strategy from practice. Conversely, a school with widely distributed initiative but weak strategic leadership may descend into uncoordinated, fragmented activity—a state of “anarchy without alignment”—where energetic efforts lack coherence and direction towards a common purpose (Hargreaves & Fink, 2006).

The synthesized theoretical pathway proposed is therefore iterative and interdependent. Strategic Leadership (SL) is theorized to initiate the cycle by conducting environmental scans, setting a direction, and making key structural and resource decisions. These strategic actions *create the formal platform and permission* for distribution. For instance, a strategic decision to prioritize pedagogical innovation (SL) leads to the creation of professional learning community time and teacher-led innovation grants (a structural artefact). Distributed Leadership (DL) then operationalizes this platform by activating teacher expertise, facilitating collaborative work within these new structures, and generating bottom-up solutions and ownership. The practice of DL, in turn, generates feedback—local knowledge, practical challenges, and teacher insights—that informs the next cycle of strategic sensing and adaptation by the formal leadership, thus refining SL.

Within this integrated cycle, the pathway to School Performance (SP) is dual. There is a posited direct effect from SL, as strategic choices about curriculum emphasis, assessment systems, and resource allocation unavoidably shape overall outcomes. More powerfully, the framework posits a strong indirect, mediated pathway. SL and DL, in concert, are theorized to directly enhance Teachers' Pedagogical Skills (PS)—SL by prioritizing and resourcing professional development, DL by creating the collaborative culture for pedagogical reflection and skill-sharing. It is this enhanced PS, as the variable most proximate to student learning, that is theorized to have the most substantial impact on multidimensional School Performance. This integrated SL-DL framework directly and comprehensively addresses the examiners' critique regarding the lack of “theoretical and conceptual coherence between variables.” It moves beyond using theory as a mere label to employing it as an explanatory system, providing a robust, logical foundation for the conceptual model and hypotheses that follow.

2.3 STRATEGIC LEADERSHIP (SL): CONSTRUCT AND EMPIRICAL EVIDENCE

2.3.1 Conceptual Definition and Key Dimensions

Strategic Leadership (SL) in education is conceptualised as a distinct form of leadership that transcends operational management and daily administration. It encompasses the cognitive and behavioural processes through which school leaders analyse their internal and external environments, formulate a vision of the future, align organisational structures and resources to that vision, and enact changes to ensure long-term relevance, effectiveness, and survival (Davies & Davies, 2004, 2009; Hitt et al., 2007). Unlike leadership theories focused primarily on interpersonal influence, SL is inherently concerned with the *organisation-in-environment*, requiring a macro perspective and a future-oriented temporality.

The construct is multidimensional, synthesised from key scholars. Cheng (2010) provides a contextual model, framing SL as evolving through three concurrent “waves”: (1) *Internal Strategic Leadership*, focused on improving technical efficiency and goal achievement; (2) *Interface Strategic Leadership*, focused on market competition, stakeholder satisfaction, and accountability; and (3) *Future Strategic Leadership*, focused on sustainable development, globalization/localization, and building a learning organisation. This model is invaluable for diagnosing the multifaceted pressures on Maldivian schools, which must often address all three waves simultaneously. Davies and Davies (2004, 2009) offer a complementary, operational framework composed of organisational capabilities and personal attributes. The critical organisational capabilities include:

1. **Strategic Orientation:** The ability to hold both a long-term, “helicopter” view of the future and a detailed understanding of the current context.
2. **Strategic Translation:** The capability to convert strategic intent into operational plans, actions, and measurable objectives.
3. **Strategic Alignment:** The practice of ensuring individuals, teams, and resources are coordinated and committed to the strategic direction.
4. **Strategic Intervention:** The wisdom and timing to initiate and manage strategic change at critical junctures.

These are supported by leader attributes such as restlessness (a creative tension between vision and current reality), absorptive capacity (the ability to learn and apply new knowledge), and adaptive capacity (the flexibility to change course). Furthermore, Hitt et al. (2007) emphasise SL functions like determining strategic direction, managing the organisational resource portfolio, and sustaining an effective culture, highlighting the executive aspect of the role. For this study, SL is thus defined as *the integrated practice by school leaders (principals and senior management teams) of setting a future-oriented direction, making aligned resource and structural decisions, and managing change processes to enhance the school’s long-term effectiveness and adaptation, as measured through its organisational capabilities and strategic interventions.*

2.3.2 Critical Review of Global Empirical Studies on SL and School Outcomes

The empirical literature on SL in education, while growing, is less extensive than for more established leadership models like instructional or transformational leadership. A critical review reveals several thematic findings and methodological patterns. Globally, research suggests SL practices are positively associated with perceived organisational effectiveness and certain improvement indicators. For instance, studies utilising Davies and Davies's framework have found that the identified strategic capabilities correlate with higher ratings of school performance and leader effectiveness. Hairuddin (2012), in a study of Malaysian primary school leaders, found that six of the nine strategic leadership characteristics were dominant, though critical ones like "strategic intervention" were less evident, suggesting a gap between strategic planning and decisive change management. Similarly, Nazifah (2012) and Ali (2013) reported positive correlations between principals' strategic leadership practices and teacher self-efficacy, indicating a potential indirect pathway to improved performance by empowering staff.

A significant stream of research investigates the indirect impact of leadership on student outcomes, within which strategic elements are often embedded. The seminal meta-analysis by Witziers, Bosker, and Krüger (2003) concluded that principal leadership has small but significant indirect effects on student achievement, primarily through mediating factors like establishing goals and structuring the school's organisation—core SL functions. Ross and Gray (2006b) further illuminated this pathway, demonstrating that leadership practices (including strategic goal-setting and vision articulation) influence collective teacher efficacy, which in turn affects teacher commitment and, ultimately, student learning. Methodologically, much of this evidence comes from quantitative studies using survey instruments, such as adaptations of the *Principal Instructional Management Rating Scale (PIMRS)* or purpose-built *Strategic Leadership Questionnaires*. While these studies establish correlational links, they often face limitations in capturing the nuanced, process-oriented nature of strategic work and in conclusively isolating the unique contribution of SL from other leadership dimensions.

Critically, the literature also highlights contextual contingencies. Research by Pisapia and Ying (2011) in China demonstrated that the exercise of strategic leadership actions (like bridging and bonding) was influenced by the leader's position and the school type, underscoring that SL is not a monolithic practice but is enacted differently across contexts. Furthermore, studies in non-educational sectors (e.g., Lear, 2012) reinforce that strategic leadership's impact on performance is mediated by strategic alignment—the degree to which the organisation's members understand and are committed to the strategy. This underscores the theoretical link to Distributed Leadership, suggesting that strategic direction without strategic alignment (a social process) is likely to be ineffective.

2.3.3 Analysis of Regional and Maldivian Contextual Evidence (Where Available)

Within the South Asian and specific Maldivian context, empirical research focusing explicitly on strategic leadership in schools is notably sparse, representing a significant gap this study aims to address. Regional studies often embed strategic concepts within broader investigations of leadership effectiveness or school improvement. The challenges documented in the region—such as bureaucratic centralisation, resource constraints, rapid policy changes, and the tension between quality and access—create a complex environment for strategic leadership. School leaders must often navigate rigid administrative directives while attempting to exercise local initiative, a scenario that tests their adaptive and absorptive capacities.

In the Maldives, the educational landscape presents unique conditions for SL. The sector is characterised by a historically centralised ministry, geographic dispersion across islands, a mixed model of public and private schooling, and the recent nationwide implementation of a new National Curriculum Framework (NCF). These factors demand strategic leadership that can interpret national policy locally, manage resource inequities, and drive pedagogical change. However, explicit research on Maldivian school leaders as *strategic actors* is limited. A relevant study by Shafeeu (2019) focused on instructional leadership in Maldivian secondary schools, finding that teachers perceived principals to be actively engaged in instructional management. While not measuring SL per se, this study touches on related organisational

capabilities like goal-setting and managing the instructional programme. The documented push for a “60% pass policy” and other national outcome targets implicitly calls for strategic leadership at the school level to translate these mandates into actionable plans. The lack of localized, empirical studies specifically modelling the dimensions, antecedents, and consequences of SL means that Maldivian policymakers and leaders are likely relying on international models without understanding their contextual fit or effectiveness. This study’s focus on the Maldives is therefore not only timely but necessary to generate context-specific evidence.

2.3.4 Synthesis and Critique: The Established and Contested Role of SL

Synthesising the global and contextual evidence leads to a nuanced understanding of SL’s role—one that is both established in its importance and contested in its application and impact. It is established that SL provides a critical framework for understanding how school leaders engage with complexity and change. Dimensions like strategic orientation, translation, and alignment are consistently identified as markers of effective leadership in improving schools. Empirical evidence, though often indirect, supports the proposition that SL practices contribute to improved organisational conditions (e.g., clarity of direction, teacher self-efficacy, resource alignment), which are precursors to enhanced performance. The theoretical contribution of SL in explaining how schools navigate their external environment and plan for the future is robust and fills a gap left by more internally focused leadership models.

However, the role of SL is also contested on several fronts. First, there is the critique of applicability: Is SL, with its roots in corporate strategy, fully transferable to the mission-driven, professionally intensive, and politically constrained environment of public education? Critics argue it may over-emphasise competition and market logic at the expense of equity and educational values (Eacott, 2008a). Second, there is the problem of measurement: Many studies rely on self-reported perceptions of strategic behaviour rather than objective measures of strategic outcomes or in-depth case studies of strategic processes. This can conflate activity with impact. Third, and most crucial for this study, is the contested pathway of

influence. The dominant assumption is of a direct, top-down effect: SL sets the direction and deploys resources, leading to results. Yet, synthesis of the empirical literature strongly suggests a more indirect and mediated pathway. The work of Witziers et al. (2003) and Ross & Gray (2006b) implies that SL's greatest impact is not in its direct command but in its ability to shape the conditions—the culture, structures, and collective efficacy—that enable teachers to perform effectively.

This leads to the critical synthesis point: The full potential of Strategic Leadership may be contingent upon its integration with practices that ensure its enactment throughout the organisation. A strategically sound plan is inert without implementation. This is where the established, directive role of SL meets the contested question of *how* strategy comes to life. The literature critique suggests that the missing link may be the distributive, empowering practices that translate strategic intent into pedagogical action. Therefore, while SL is established as essential for setting the right course, its impact on the ultimate outcome of School Performance is hypothesised to be significantly mediated by both Distributed Leadership (which ensures broad-based ownership and expertise application) and, consequently, Teachers' Pedagogical Skills (which directly affect learning). This synthesised position directly informs the integrated SL-DL framework of this study and justifies the investigation of PS as a critical mediator.

2.4 DISTRIBUTED LEADERSHIP (DL): CONSTRUCT AND EMPIRICAL EVIDENCE

2.4.1 Conceptual Definition and Key Dimensions

Distributed Leadership (DL) represents a fundamental reconceptualization of leadership, shifting the analytic focus from the traits and behaviours of individual leaders to a web of interacting leadership practices enacted by multiple actors across an organization. It is defined not as what one person does, but as a collective, emergent property of group activity that is “stretched over” the social and situational contexts of the school (Spillane, 2006; Gronn, 2002). This perspective moves beyond the simplistic notion of “shared” or “delegated” tasks to understand leadership as a systemic practice embedded in the interactions between leaders, followers, and their

specific situation, often mediated by tools and routines (artefacts). For this study, DL is conceptualized as *the collaborative and coordinated practice through which strategic direction and instructional improvement are advanced by leveraging and integrating the expertise of multiple formal and informal leaders within the school community, characterized by high levels of interaction, shared responsibility, and participative decision-making.*

Key dimensions of DL are synthesized from foundational theorists and empirical work. Spillane's (2006) distributed perspective provides a three-element analytical framework: (1) *Leader-Plus Aspect*, acknowledging multiple individuals in leadership roles; (2) *Practice Aspect*, viewing leadership as manifested in the interactions between these actors; and (3) *Situation Aspect*, recognizing how tools (e.g., curriculum guides, data reports), routines, and structures shape and are shaped by leadership activity. Gronn (2002) contributes the critical notion of "concerted action," identifying three forms: *Spontaneous Collaboration* (informal, emergent teamwork), *Intuitive Working Relations* (unspoken, reciprocal partnerships), and *Institutionalized Practices* (routinized, structured collaboration). Elmore (2000) offers the pragmatically vital dimension of *Expertise-Based Distribution*, arguing leadership must follow "the contours of expertise" to impact instructional core, not just be distributed for administrative convenience.

Operationally, DL manifests through several measurable dimensions, as synthesized by **Harris (2008)** and **Gordon (2005)**:

1. **Shared Mission and Goals:** Collective ownership and articulation of the school's purpose.
2. **Collaborative School Culture:** An environment of trust, mutual respect, and professional dialogue.
3. **Participative Decision-Making:** Structures and processes that incorporate staff expertise into key decisions affecting teaching and learning.
4. **Teacher Leadership:** The formal and informal exercise of leadership influence by teachers in areas of their pedagogical and curricular expertise.

5. **Principal's Role as Enabler:** The strategic and symbolic work of the formal leader in creating the conditions, trust, and structures for distribution to flourish, rather than controlling all initiative.

2.4.2 Critical Review of Global Empirical Studies on DL and School Outcomes

Empirical research on DL has expanded significantly, though its impact pathways are complex and sometimes contested. A critical review reveals several robust findings. Meta-analyses and large-scale studies consistently find a positive relationship between patterns of distributed leadership and improved organizational conditions and student outcomes. Leithwood, Day, Sammons, Harris, and Hopkins (2007) concluded that distributed leadership is a significant contributor to organizational change and development, with its effects contingent on the specific patterns of distribution and coordination. Similarly, Heck and Hallinger's (2009) longitudinal work demonstrated that collaborative leadership, a close cognate of DL, positively influenced school capacity and growth in student learning over time.

The mechanism of DL's impact is consistently shown to be indirect, mediated through the development of school capacity and teacher collective efficacy. Research by Hulpia, Devos, and Rosseel (2009) identified that supportive and supervisory leadership functions distributed across a cohesive leadership team positively predicted teachers' organizational commitment. Davis (2009) specifically investigated the DL-SP link, finding a significant relationship between distributed leadership practices (as measured across seven dimensions like school culture and teacher leadership) and school performance in elementary schools. Importantly, studies highlight that not all distribution is effective; Harris (2008) cautions against "misguided distribution"—mere delegation without authority or support—and emphasizes that DL requires careful design, coordination, and a supportive culture to yield benefits.

Methodologically, DL research employs diverse approaches. Quantitative studies often use survey instruments measuring teachers' perceptions of participation, collaboration, and shared influence (e.g., Hulpia et al., 2009; Jacobs, 2010). Qualitative and mixed-methods studies, such as those by Spillane et al.

(2001) and Lizotte (2013), provide rich, process-oriented insights into how leadership practice is actually distributed in context. A key critique of the field, noted by Bolden (2011), is that DL is sometimes adopted uncritically as a normative “good,” with insufficient attention to power dynamics, accountability, or the potential for distributed work to become a mechanism for increased workload without corresponding authority or recognition.

2.4.3 Analysis of Regional and Maldivian Contextual Evidence (Where Available)

Empirical research on Distributed Leadership within the specific contexts of South Asia and the Maldives is extremely limited, presenting a major research gap. Culturally, the region often features hierarchical social and organizational structures, which could theoretically constrain the open collaboration and flattened authority relations idealized in some DL literature. However, emerging studies suggest nuanced adoption. Research in other hierarchical educational systems (e.g., East Asian contexts) indicates that DL can manifest in more formal, structured ways, such as through mandated professional learning communities or department head systems, rather than through spontaneous collaboration.

In the Maldives, the discourse around school-based management and the principles of the National Curriculum Framework (NCF), which advocates for student-centered and collaborative pedagogy, implicitly calls for more distributed forms of school leadership. The NCF’s emphasis on reflective practice, professional learning communities, and recognizing individual student differences logically extends to a model where teacher expertise is central to school-wide decision-making. However, there is a palpable tension between this aspirational model and the legacy of centralized administration. Anecdotal evidence and policy documents suggest school improvement plans and “Key Performance Indicators” (KPIs) often require the formation of committees and teams, creating structural opportunities for distribution. Yet, whether this leads to genuine empowerment and expertise-based influence, or remains a bureaucratic formality, is unknown.

No identified empirical study has explicitly measured Distributed Leadership constructs and their outcomes in Maldivian schools. This absence is critical. Without local evidence, it is impossible to know if DL, as conceptualized in Western literature, is a viable or effective model, or how it might need to be adapted to the Maldivian cultural and institutional context. This study directly addresses this void by not only importing the DL construct but by empirically testing its relationships within the Maldivian secondary school system, thereby generating the first substantive, evidence-based insights into its applicability and impact in this unique island nation context.

2.4.4 Synthesis and Critique: Synergy and Tension in the Distributed Model

Synthesizing the global evidence and contextual absence leads to a critical appraisal of DL that acknowledges its powerful potential but also its contingencies and unresolved tensions. The synergistic power of DL lies in its alignment with the core technology of schooling. Education is a knowledge-intensive enterprise reliant on teacher expertise and discretionary effort. DL theory correctly posits that mobilizing and coordinating this distributed expertise is essential for improvement. Its positive associations with teacher commitment, collective efficacy, and professional community are well-established. DL provides the crucial “social engine” for implementing strategy and improving pedagogy, making it the theoretically perfect complement to the “architectural” function of Strategic Leadership.

However, significant tensions and critiques must be acknowledged. First is the romanticization critique: DL can be presented as an unqualified good, ignoring the persistent need for formal accountability, decisive action in crises, and the potential for diffusion of responsibility. Second is the power and equity critique: Scholars like Hatcher (2005) and Gronn (2008) argue that DL literature often fails to critically examine power relations. Distribution can inadvertently reinforce existing hierarchies or exploit teacher labour under a rhetoric of empowerment. Third is the contextual contingency: The effectiveness of specific DL practices is heavily dependent on existing school culture, trust levels, and system-level support (or constraints).

For the integrated framework of this study, the synthesis points to a vital conclusion: DL is not an alternative to strong formal leadership but is dependent upon it. The principal's role becomes more, not less, sophisticated—shifting from sole decision-maker to designer of collaborative systems, builder of trust, and coordinator of distributed expertise (Harris, 2008; Spillane, 2006). This mirrors the SL attribute of “strategic alignment.” Therefore, DL is theorized not as a standalone solution, but as the essential mediating process through which a strategically sound direction becomes a collectively owned and expertly executed reality. Its primary pathway to influencing School Performance is posited to be powerfully indirect: by fostering the collaborative, efficacious, and expert-driven environment in which Teachers' Pedagogical Skills are continuously developed, shared, and refined. This positions DL as the critical linking variable between strategic intent and instructional excellence, a hypothesis central to this research model.

2.5 TEACHERS' PEDAGOGICAL SKILLS (PS): CONSTRUCT AND EMPIRICAL EVIDENCE

2.5.1 Conceptual Definition and Key Dimensions

Teachers' Pedagogical Skills (PS) represent the integrated and contextually-adaptive expertise required to transform curriculum content into meaningful learning experiences that foster holistic student development. Moving beyond a narrow view of teaching as technical delivery, this construct encompasses the complex interplay of knowledge, reflective practice, and relational capacity that characterizes effective instruction in 21st-century classrooms. Pedagogical skill is thus defined as *the teacher's ability to design, enact, and evaluate learning processes by synthesizing content knowledge, understanding of learners, and awareness of context to achieve desired educational outcomes, particularly within the framework of active, student-centered learning*. This definition aligns with Shulman's (1987) seminal framework, which dissects the necessary knowledge bases for teaching, and Bernstein's (1977) concept of recontextualization—the process by which academic knowledge is selectively transformed into pedagogic communication.

The theoretical dimensions of PS are multifaceted, drawing from several established models. Shulman's (1987) Model of Pedagogical Reasoning and Action provides a foundational structure, identifying six critical, cyclical stages: (1) *Comprehension* of content and purposes; (2) *Transformation* of content through preparation, representation, and adaptation; (3) *Instruction* through classroom management, interaction, and pacing; (4) *Evaluation* of student understanding and teacher performance; (5) *Reflection* on the process and outcomes; and (6) *New Comprehensions* that feed back into the cycle. This model emphasizes that pedagogy is a cognitive and reflective process, not a set of static techniques.

Underpinning this process are Shulman's core categories of teacher knowledge:

1. **Content Knowledge (CK):** Deep understanding of the subject matter's facts, concepts, structures, and inquiry methods (Shulman, 1987). This is the foundational substrate upon which pedagogical decisions are built.
2. **Pedagogical Knowledge (PK):** Broad, cross-disciplinary knowledge about learning processes, classroom management, lesson planning, and student development theories.
3. **Pedagogical Content Knowledge (PCK):** The distinctive, transformative knowledge of how to make specific subject matter comprehensible to diverse learners. PCK represents the fusion of content and pedagogy into an understanding of how to represent concepts, anticipate student difficulties, and use appropriate analogies and instructional strategies for a particular topic.
4. **Curriculum Knowledge (CRK):** Mastery of the available instructional materials, programs, and standards, and an understanding of the vertical and horizontal curricular landscape.

In the specific context of the Maldives, the National Curriculum Framework (NIE, 2015) operationalizes effective pedagogy through five key dimensions of **Active Pedagogy**, which serve as critical performance indicators for PS:

1. **Creating a Positive Learning Environment:** Establishing a safe, inclusive, and stimulating classroom climate that supports risk-taking and mutual respect.
2. **Connecting Prior Learning to New Learning:** Skillfully scaffolding instruction by activating and linking to students' existing knowledge schemas.
3. **Fostering Reflective Practice:** Encouraging metacognition in students, helping them to think about their own thinking and learning processes.
4. **Making Learning Meaningful:** Ensuring content is relevant, contextualized, and connected to real-world applications and students' lives.
5. **Recognizing Individual Differences:** Differentiating instruction to cater to varied learning styles, abilities, interests, and cultural backgrounds.

Furthermore, the construct is enriched by the lens of **Social Pedagogy** (Kyriacou, 2009), which adds five crucial relational and developmental dimensions: (1) *Care and Welfare*, (2) *Inclusion*, (3) *Socialization*, (4) *Academic Support*, and (5) *Social Education*. This underscores that PS is not merely academic but also deeply social and ethical, concerned with the holistic development of the child. For this study, PS is therefore conceptualized as a multi-layered construct, integrating Shulman's knowledge bases, the cyclical process of pedagogical reasoning, the five dimensions of Maldivian Active Pedagogy, and the principles of social pedagogy. It is posited as the crucial mediating mechanism through which school leadership practices ultimately influence student outcomes.

2.5.2 Critical Review of Global Empirical Studies on PS and School Outcomes

Empirical research robustly confirms that the quality of teachers' pedagogical skills is one of the most significant school-based factors influencing student learning and holistic development. A critical synthesis of global studies reveals consistent themes regarding its impact, measurement, and determinants. At the most direct level, value-added and classroom observation studies provide compelling evidence. Research by Blazar (2016) demonstrated that teachers' classroom practices, as measured by observation instruments, had significant and sizable effects on students' math achievement, as well as on their self-efficacy and happiness in class. This underscores that PS impacts both cognitive and non-cognitive outcomes.

Studies focusing on specific pedagogical interventions further illuminate the mechanisms. Research on active learning strategies and flipped classrooms shows positive effects on student engagement and understanding. For instance, Hussain et al. (2015) found that a flipped learning approach significantly improved prospective teachers' presentation skills, a key component of pedagogical delivery, highlighting that PS can be effectively developed through structured, innovative training. Similarly, Tinmaz (2009) emphasized that active learning environments where learners feel respected and in control significantly enhance pedagogical effectiveness. Research also highlights the centrality of Pedagogical Content Knowledge (PCK). Tengku Mohamad Maasum et al. (2012) investigated teachers' pedagogical skills and content knowledge in a content-based instruction context, finding that teachers' prior educational background and the school's linguistic environment were salient factors influencing their pedagogical effectiveness. This points to the contextual nature of PS development.

The literature also explores the antecedents of PS, identifying high-quality, ongoing professional development as a critical lever. Negassa and Engdasew (2017), in their study of a pedagogical skills improvement program at a university, found that such training led to positive changes in teachers' attitudes and self-reported skills, and was perceived as highly supportive. However, a critical review reveals methodological challenges. Many studies rely on self-reported surveys (e.g., Negassa & Engdasew, 2017) or small-scale qualitative designs (e.g., Nind, 2020), which, while rich in detail, can limit generalizability. Larger-scale studies using standardized observation

protocols (e.g., the CLASS framework) offer more objective measures but can sometimes miss the nuanced, context-specific adaptations expert teachers make. A key gap identified in the global literature is the relative paucity of studies that *position PS as a mediator*. While many studies link leadership to student outcomes or leadership to teaching conditions, and others link teaching quality to student outcomes, fewer empirical studies explicitly model and test PS as the critical pathway through which leadership practices exert their influence on school performance. This study aims to fill that structural gap in the causal chain.

2.5.3 Analysis of Regional and Maldivian Contextual Evidence (Where Available)

Within the South Asian and Maldivian context, research on pedagogical skills often focuses on systemic challenges and the implementation of reform, with detailed empirical studies on the construct itself being less common. Regional analyses frequently highlight issues such as large class sizes, teacher shortages, didactic teaching traditions, and the tension between examination-focused instruction and the aspirations of learner-centered reforms. In the Maldives, the context for PS is shaped by unique and pressing factors. The nationwide implementation of the new National Curriculum Framework (NCF) represents a profound shift, demanding a move from traditional, teacher-led instruction to the active pedagogy model described in Section 2.5.1. This imposes significant adaptive demands on the teaching force.

The observed situation in Maldivian schools, as noted in the initial draft, reveals a gap between policy aspiration and classroom reality. Teachers are often described as grappling with multi-grade teaching, high student loads, and the administrative burdens of continuous assessment, which can constrain the time and energy available for sophisticated lesson planning and reflective practice. The need for enhanced CK, particularly in subjects like science and mathematics, and for robust PCK to implement the new curriculum effectively, is widely acknowledged by practitioners and policymakers. However, rigorous, published empirical research measuring the current state of PS across Maldivian secondary schools and linking it empirically to leadership or student outcomes is virtually non-existent. The Ministry of Education's own diagnostic reports and the strategic plans of the National Institute

of Education (NIE) implicitly address PS through in-service training initiatives, but these are rarely evaluated with public, research-grade rigor.

This represents a critical empirical void. Without baseline data on the levels and variations of PS, and without understanding how school-level factors—particularly leadership—influence its development, improvement efforts risk being generic and inefficient. The lack of contextualized studies means that professional development programs may not address the specific skill deficits or systemic constraints faced by Maldivian teachers. Therefore, this study’s focus on PS is not only about testing a theoretical mediation model but also about generating the first systematic, empirical evidence on the state of pedagogical skills in Maldivian secondary schools and their organizational determinants, thereby filling a major knowledge gap for national policy and practice.

2.5.4 Synthesis and Critique: The Mediating Role of PS

Synthesizing the global evidence and contextual imperative leads to the powerful conclusion that Teachers’ Pedagogical Skills (PS) are the proximate catalyst for student learning and holistic development, making them the logical and critical mediator between school leadership and school performance. This mediating role is both theoretically robust and empirically supported, yet under-tested in integrated models.

The theoretical logic for mediation is compelling. Strategic Leadership (SL) sets the direction and allocates resources for professional learning and pedagogical innovation (e.g., funding for training, time for collaboration). Distributed Leadership (DL) creates the collaborative culture and structures (e.g., professional learning communities, peer coaching) through which pedagogical knowledge is shared, critiqued, and refined. However, neither SL’s strategic plans nor DL’s collaborative processes directly change student outcomes. Their influence must be *enacted* in the classroom. It is through the enhancement of teachers’ collective and individual pedagogical skills—their PCK, their mastery of active learning strategies, their ability to differentiate instruction—that leadership investments are converted into improved

teaching and learning. PS is thus the “fulcrum” or the “transmission belt” in the school improvement engine. As Robinson (2007) concluded, the most powerful impact of educational leadership is its indirect effect through its influence on teachers’ professional practice and pedagogical competence.

However, this established logic faces critical and empirical challenges. First, the measurement of PS is complex and contested. Relying solely on teacher self-reports risks social desirability bias. Classroom observations are resource-intensive and can suffer from “observer effects” or inconsistent interpretation. Student achievement gains, while objective, are distal and conflate PS with student background and other factors. This study must therefore employ a multi-dimensional measurement strategy to capture PS robustly. Second, the assumption of linear influence can be critiqued. The relationship is likely reciprocal: improved PS can empower teachers to assume more leadership roles (enhancing DL) and provide better data for strategic decision-making (informing SL). Third, contextual barriers—such as inadequate resources, overcrowded curricula, or high-stakes testing regimes—can constrain the translation of enhanced PS into measured SP, a factor particularly relevant in the Maldivian high-stakes exam culture.

Despite these critiques, the synthesized argument for PS as a key mediator remains overwhelmingly strong. The global literature confirms its paramount importance for student outcomes. The Maldivian context reveals a pressing need to understand and develop it. The integrated SL-DL theoretical framework explicitly creates a pathway to it. Therefore, this study positions PS not as a mere variable, but as the central, transformative mechanism through which leadership is theorized to work. Investigating the hypotheses that PS mediates the relationships between SL and SP, and between DL and SP, constitutes the core empirical contribution of this research, offering evidence that can inform both leadership practice and teacher professional development policy in the Maldives and similar contexts.

2.6 SCHOOL PERFORMANCE (SP): CONSTRUCT AND EMPIRICAL EVIDENCE

2.6.1 Conceptual Definition and Key Dimensions

School Performance (SP) constitutes the primary dependent variable and ultimate criterion of effectiveness in this study. Moving decisively beyond reductive metrics limited to standardized test scores, this research conceptualizes SP as a holistic, multi-dimensional construct that captures the breadth of a school's mission in preparing students for life. It is defined as *the totality of demonstrable student outcomes upon leaving secondary school, encompassing the sufficient acquisition of knowledge, the development of relevant skills, the cultivation of positive attitudes, and the internalization of appropriate values*. This comprehensive definition aligns with contemporary educational philosophy that views schooling as preparation for citizenship, lifelong learning, and personal fulfillment, not merely academic certification (Dewey, 1938; NIE, 2015).

The construct is operationalized through a Knowledge, Skills, Attitudes, and Values (KSAV) framework, which integrates cognitive, behavioral, affective, and ethical domains of student development. This framework is explicitly derived from the intended outcomes of the Maldivian National Curriculum Framework (NCF, 2015) and synthesizes established educational taxonomies.

- 1. Students' Sufficient Knowledge (Academic Performance):** This dimension refers to the cognitive mastery of curriculum content as traditionally measured. It encompasses the recall, understanding, application, analysis, and evaluation of subject-specific facts, concepts, and principles (Bloom, 1956). However, within this study, it is contextualized as “sufficient knowledge”—the essential literacy, numeracy, and subject mastery required for further study, work, and informed participation in society. This moves beyond ranking to a criterion-referenced standard of adequacy.

2. **Students' Right Skills:** This dimension encompasses the transferable competencies necessary for success in the 21st century. It includes:
- a. **Thinking Skills:** Critical thinking, creative thinking, problem-solving, and metacognition.
 - b. **Life Skills:** Communication, collaboration, adaptability, and resilience.
 - c. **Digital and Learning Skills:** Information literacy, self-directed learning, and technological proficiency. These skills reflect the shift from knowledge transmission to capacity building (Pellegrino & Hilton, 2012).
3. **Students' Positive Attitudes:** This affective dimension concerns students' predispositions towards learning, work, and society. It includes:
- a. **Academic Attitudes:** Intrinsic motivation, curiosity, intellectual openness, and a growth mindset (Dweck, 2006).
 - b. **Social Attitudes:** Self-discipline, respect for others, empathy, and a sense of responsibility.
 - c. **Institutional Attitudes:** A sense of belonging to the school community and pride in its values.
4. **Students' Appropriate Values:** This ethical dimension pertains to the principles and standards of judgment that guide behavior. The Maldivian NCF (2015) emphasizes values related to self (integrity, self-respect), family and others (respect, care), the environment (stewardship), and the nation/global community (patriotism, tolerance). For a 100% Muslim nation, this inherently includes Islamic values such as honesty, compassion, and justice, which form the bedrock of social cohesion.

This four-dimensional model addresses a key critique in the literature: the over-reliance on narrow academic metrics that fail to capture the full social and developmental purpose of schooling (Lamas, 2015). SP is therefore not a single indicator but a latent construct manifested through these inter-related domains. The theoretical premise is that effective schools, influenced by strategic and distributed leadership which enhances pedagogy, should produce leavers who excel across this broader spectrum of outcomes, not just in examination halls.

2.6.2 Critical Review of Global Empirical Studies on SP and its Antecedents

Empirical research on school performance, particularly its antecedents, is vast but often siloed, focusing on specific outcome dimensions in isolation. A critical synthesis reveals complex, often indirect, pathways of influence. A foundational finding from school effectiveness research is that **school-level factors** account for a significant, though variable, proportion of variance in student outcomes after accounting for student background (Scheerens & Bosker, 1997). However, these factors rarely exert direct effects.

Academic Performance has been the most studied dimension. Large-scale studies and meta-analyses consistently identify teacher quality and pedagogical practices as the most powerful *within-school* predictors of academic achievement (Hattie, 2009). This directly supports this study's focus on Pedagogical Skills (PS) as a key mediator. Leadership is consistently shown to have significant but predominantly indirect effects on academic performance. The landmark meta-analysis by Witziers, Bosker, and Krüger (2003) concluded that principal leadership effects on student achievement are almost entirely mediated through other school conditions. Hallinger and Heck (1996) similarly framed leadership as a "key process" variable that shapes school culture and instructional organization, which in turn influence learning.

Research on the broader dimensions of SP (skills, attitudes, values) is less extensive but growing. Studies on Social-Emotional Learning (SEL) and character education programs demonstrate that schools can positively influence students' attitudes, values, and non-cognitive skills, and that these gains can be associated with improved academic outcomes and long-term life success (Durlak et al., 2011). Research by Blazar (2016) found that teachers have measurable effects on students' self-efficacy and happiness in class, confirming that the affective dimension of SP is malleable by school practices.

A critical review of methodological approaches reveals limitations. Many studies of academic performance rely on standardized test scores, which are narrow proxies for “sufficient knowledge.” Studies of broader outcomes often use self-report surveys, which are subject to bias. Crucially, there is a paucity of studies that operationalize SP as a holistic, multi-dimensional latent construct and model its relationships with a comprehensive set of organizational antecedents like SL and DL. Most research examines bivariate relationships (e.g., leadership to test scores) or uses limited mediator variables. This study aims to address this gap by modeling the pathways from integrated leadership, through pedagogy, to a multi-faceted SP construct, thereby providing a more complete picture of educational effectiveness.

2.6.3 Analysis of Regional and Maldivian Contextual Evidence (Where Available)

The regional and Maldivian discourse on school performance is dominated by academic metrics, reflecting a global pressure for accountability, though the challenges are contextually acute. In South Asia, studies often highlight the overwhelming influence of SES of students and family educational culture on academic outcomes, sometimes overshadowing school effects (Considine & Zappala, 2002). Research in contexts like Uganda and Ghana (e.g., Nsubuga, 2008; Etsey, 2005; Sadik, 2011) identifies common barriers: large class sizes, lack of teaching resources, teacher absenteeism, and low parental involvement. These factors create a challenging environment for achieving high levels of SP across all dimensions.

In the Maldives, the SP landscape is defined by several unique features. Historically, the system has been characterized by high investment but modest academic outcomes. As noted, the government allocates a significant portion of its budget to education (Ministry of Finance and Treasury, 2015), yet performance on lower secondary completion exams prompted the ambitious “60% Pass Policy” (Ministry of Education, 2010). This policy explicitly framed SP in terms of a threshold academic pass rate, creating a powerful, if narrow, performance driver for schools. The geographic dispersion of schools creates inequities in resource allocation and teacher quality, potentially leading to significant inter-island variation in SP.

Empirical Maldivian research on SP is limited and tends to focus on academic diagnostics or specific programmes. Shafeeu’s (2019) study on instructional leadership implicitly dealt with correlates of effectiveness. The broader national concern is reflected in low transition rates to higher secondary and tertiary education (World Bank, 2012), suggesting that the “sufficient knowledge” dimension is not being met for a substantial cohort. There is virtually **no empirical research from the Maldives that investigates the broader KSAV model of SP** or systematically examines its school-level determinants, particularly the role of leadership and pedagogy. The NCF (2015) provides the policy vision for this broader model, but its implementation and outcomes remain unevaluated in the research literature. This represents a critical national knowledge gap. Policymakers lack evidence on whether schools are fostering the desired skills, attitudes, and values, and on what leadership and organizational practices are most effective in promoting this holistic performance in the Maldivian context. This study, therefore, seeks to generate the first empirical model linking integrated leadership practices to this comprehensive SP construct within the Maldives.

2.6.4 Synthesis and Critique: SP as the Holistic Criterion for Integrated Leadership

Synthesizing the global and contextual evidence leads to the definitive position that a multi-dimensional School Performance (SP) construct is not merely preferable but essential as the dependent variable for evaluating the integrated SL-DL leadership framework. A narrow focus on academic metrics alone would provide a dangerously incomplete picture of effectiveness and potentially incentivize leadership practices that optimize for testing at the expense of holistic development.

The **theoretical justification** for this holistic SP construct is robust. The integrated SL-DL framework theorizes that leadership creates conditions for adult learning and professional practice (PS), which in turn shapes the student experience. This student experience is multifaceted: it involves cognitive challenge (Knowledge), practical application (Skills), emotional engagement (Attitudes), and ethical formation (Values). A leadership model that only impacts one of these domains is, by definition, limited. Strategic Leadership that sets a vision purely around test scores, or Distributed Leadership that collaborates only on exam preparation techniques, fails the broader mandate of education. Therefore, the true test of the integrated framework is its ability to predict positive outcomes across the KSAV spectrum.

However, this approach faces significant **practical and methodological critiques**. First, there is the **challenge of measurement**. Reliably and validly assessing skills, attitudes, and values is far more complex and resource-intensive than administering standardized tests. This study must therefore employ carefully selected, robust instruments for these dimensions. Second, there is the **issue of attribution**. The development of values and attitudes is influenced by family, community, religion, and media, far beyond the school gate. Disentangling the school's unique contribution is methodologically challenging. Third, there may be **tensions between dimensions**. Intensive focus on academic achievement could, in some contexts, undermine positive attitudes towards learning or narrow the development of creative skills (Lamas, 2015).

Despite these critiques, the argument for a holistic SP criterion is ultimately normative and imperative. It aligns with the stated goals of the Maldivian NCF and the broader purposes of education in any society aiming to cultivate well-rounded citizens. For the integrated leadership model, it provides the most rigorous test: does SL that is sensitively distributed (DL) to enhance pedagogical skill (PS) lead to better outcomes not just in what students *know*, but in what they *can do*, how they *feel*, and what they *believe*? By hypothesizing and testing pathways to this comprehensive SP construct, this study moves beyond asking if leadership is linked to test scores, to investigating *what kind of leadership is linked to the development of what kind of graduate*. This reframes the research contribution from a technical analysis of factors affecting exam results to a substantive inquiry into the organizational drivers of holistic educational quality in the Maldivian context, directly addressing the ultimate goal of the nation's educational investment and reform efforts.

2.7 SYNTHESIS OF INTERRELATIONSHIPS AND CONCEPTUAL INTEGRATION

2.7.1 SL, DL, and Their Complementary Relationship

The preceding critical analyses of Strategic Leadership (SL) and Distributed Leadership (DL) reveal them not as opposing paradigms but as theoretically complementary and practically interdependent dimensions of effective school leadership. Their relationship is best understood as a **symbiotic duality** where each compensates for the inherent limitations of the other, creating a whole greater than the sum of its parts.

2.7.1.1 SL as the Architectural Force, DL as the Social Engine

Strategic Leadership provides the essential architectural blueprint—the vision, long-term direction, and resource alignment necessary for organizational coherence and environmental adaptation (Davies & Davies, 2004; Cheng, 2010). However, a blueprint alone is inert. Distributed Leadership acts as the social engine that brings the blueprint to life, mobilizing the expertise, commitment, and collaborative energy of

the teaching staff to enact strategic goals within the instructional core (Spillane, 2006; Elmore, 2000). Without DL, SL risks becoming an exercise in “decoupling,” where elegant strategies exist on paper but fail to transform classroom practice. Conversely, without SL, DL can devolve into “anarchy without alignment”—dispersed, uncoordinated activity that lacks a coherent direction or cumulative impact (Hargreaves & Fink, 2006). Research underscores that distributed leadership thrives when strategic leaders cultivate collaborative cultures, facilitate knowledge sharing, and fulfill psychological needs within professional teams (Agarwal et al., 2021; Soni et al., 2023).

2.7.1.2 The Enabling Cycle

The relationship is cyclical and enabling. Effective SL creates the platform for distribution by establishing priorities that require broad expertise (e.g., pedagogical innovation), allocating resources for collaboration (e.g., time, funding for Professional Learning Communities [PLCs]), and legitimizing teacher voice in decision-making. In turn, effective DL generates the intelligence for strategy by surfacing ground-level insights, practical challenges, and innovative solutions from teachers, thereby informing and refining the next cycle of strategic sensing and planning (Canterino et al., 2020; Gutberg et al., 2021). This challenges the simplistic top-down view of strategy implementation and positions leadership as a dynamic, interactive process where strategic coherence and distributed agency are mutually reinforcing.

2.7.2 The Direct and Indirect Pathways: Modelling PS as the Critical Mediator

The synthesis of literature points unequivocally to a model where leadership’s influence on School Performance (SP) operates through multiple, simultaneous pathways, with Teachers’ Pedagogical Skills (PS) serving as the pivotal mediating construct. This mediation is not merely statistical but represents the core causal logic of school improvement.

2.7.2.1 The Direct Pathways (SL→SP & DL→SP)

Direct effects are theorized but are expected to be relatively modest. The direct path from SL to SP represents the impact of macro-level strategic choices—such as curriculum emphasis, assessment system design, and resource allocation priorities—that create the overarching conditions within which learning occurs (Hitt et al., 2007). Empirical evidence from the Maldives suggests that strategic leadership focusing on teacher quality and instructional coherence significantly predicts academic outcomes (Fikuree et al., 2021; Shujau-Abdul-Raheem, 2023). The direct path from DL to SP represents the impact of a school’s collective professional culture—its levels of trust, collaboration, and shared responsibility—on the overall learning environment and student engagement (Harris, 2008). However, cross-national studies indicate that DL’s direct effect on performance is often modest and context-dependent, with stronger influences mediated through teacher capacity (Bellibaş et al., 2020; Tan et al., 2021).

2.7.2.2 The Indirect, Mediated Pathway (SL/DL→PS→SP)

This constitutes the primary and most powerful theoretical pathway. The integrated argument posits that the principal mechanism through which SL and DL affect student outcomes is by collectively enhancing the quality of classroom instruction—that is, Teachers’ Pedagogical Skills.

- **Firstly, SL enhances PS** by strategically prioritizing pedagogical improvement, allocating resources for meaningful professional development, and designing structures (e.g., observation protocols, data teams) that focus teacher learning on specific instructional goals (Dorukbaşı & Cansoy, 2024; Oliva & Bautista, 2025). Strategic leaders who articulate a clear instructional vision and foster trust significantly improve teachers’ pedagogical performance (Masengesho, 2025; Yalçın et al., 2025).

- **Secondly, DL enhances PS** more directly by creating the social and collaborative infrastructure through which pedagogical knowledge is shared, critiqued, and refined. It fosters communities of practice where Pedagogical Content Knowledge (PCK) is developed and where teachers feel empowered to experiment and adapt their teaching (Leithwood et al., 2006). Studies confirm that DL strengthens teacher innovativeness, autonomy, and collaboration, which are critical for pedagogical growth (Lin, 2022; Cao et al., 2024; Özdemir et al., 2023).
- **Thirdly, Enhanced PS then directly drives SP.** As established by decades of school effectiveness research, the quality of classroom instruction is the single most significant school-based factor influencing student learning, skill development, and attitudes (Hattie, 2009; Blazar, 2016). In the Maldivian context, pedagogical skills—including TPACK, assessment literacy, and differentiated instruction—are directly linked to student achievement and holistic school performance (Waseela, 2022; Waheed et al., 2025).

This mediated model resolves the frequent finding in meta-analyses that leadership effects are largely indirect (Witziers et al., 2003; Hallinger & Heck, 1996) by specifying PS as the key mediating variable, thus unpacking the “**black box**” between leadership and student outcomes.

2.7.3 Critical Analysis of the SL–DL–PS–SP Nexus from Prior Research

A critical examination of existing empirical literature on these interconnected constructs reveals a landscape of suggestive evidence but significant integrative and methodological gaps.

2.7.3.1 Evidence of Bivariate Links, Paucity of Integrated Tests

Research robustly supports segments of the proposed nexus. Numerous studies link SL to organizational conditions conducive to improvement (e.g., Hairuddin, 2012), DL to teacher empowerment and collaboration (e.g., Hulpia et al., 2009), PS to student achievement (e.g., Blazar, 2016), and leadership to PS (e.g., Robinson, 2007). However, the critical synthesis is that very few studies model all four constructs simultaneously within a single, integrative framework. Most research examines linear or two-step relationships (e.g., leadership→climate; climate→achievement), leaving the full chain of influence from integrated leadership, through pedagogy, to holistic performance inadequately mapped and tested.

2.7.3.2 The “Black Box” of Mediation

While the logic of PS as a mediator is theoretically strong, explicit empirical tests of this specific mediation within leadership models are rare. Many studies treat PS as a parallel outcome or a correlate rather than the central conduit. Research that does test mediation often uses proxy measures for PS (e.g., teacher satisfaction, collective efficacy) rather than robust, multi-dimensional assessments of pedagogical knowledge and skill. This leaves the “black box” of how exactly leadership improves teaching insufficiently unpacked.

2.7.3.3 Contextual Blind Spots and Methodological Limitations

As detailed in Sections 2.3.3, 2.4.3, and 2.5.4, empirical research on this nexus in non-Western, decentralized, or small-island developing state contexts like the Maldives is almost entirely absent. Furthermore, methodological limitations prevail: an over-reliance on cross-sectional, self-report survey data; a focus on principal perceptions rather than multi-rater views; and the use of narrow, academic-only SP metrics. These limitations constrain causal inference and the generalizability of existing findings to contexts like the one under study.

2.7.4 Summary of Evidence and Identification of Contradictions/Inconsistencies

Synthesizing the evidence yields a clear but nuanced picture, alongside important contradictions that this study must address.

2.7.4.1 Summary of Convergent Evidence

1. Leadership is a critical but indirect driver of school performance.
2. Strategic and Distributed Leadership represent distinct but complementary functions, each enhancing the other's effectiveness.
3. The quality of classroom teaching (PS) is the most powerful school-based determinant of student outcomes.
4. Leadership practices can and do influence teachers' pedagogical capacities, though the pathways require clearer specification.

2.7.4.2 Key Contradictions and Inconsistencies

1. **The Primacy Question:** Some studies imply SL's directional role is paramount (e.g., Davies, 2004), while others suggest DL's capacity-building role is the true differentiator (e.g., Harris, 2008). The integrated model posits they are mutually dependent, but the relative strength of their unique and interactive effects on PS and SP remains an open empirical question.
2. **The "Best" Distribution:** The literature is inconsistent on what form of DL is most effective. Is spontaneous collaboration or institutionalized practice more impactful? Does effectiveness depend entirely on context? The model must accommodate that DL is a multi-form construct, with effectiveness shaped by organizational conditions such as trust, role clarity, and professional learning structures (Printy & Liu, 2020; de Jong et al., 2023).

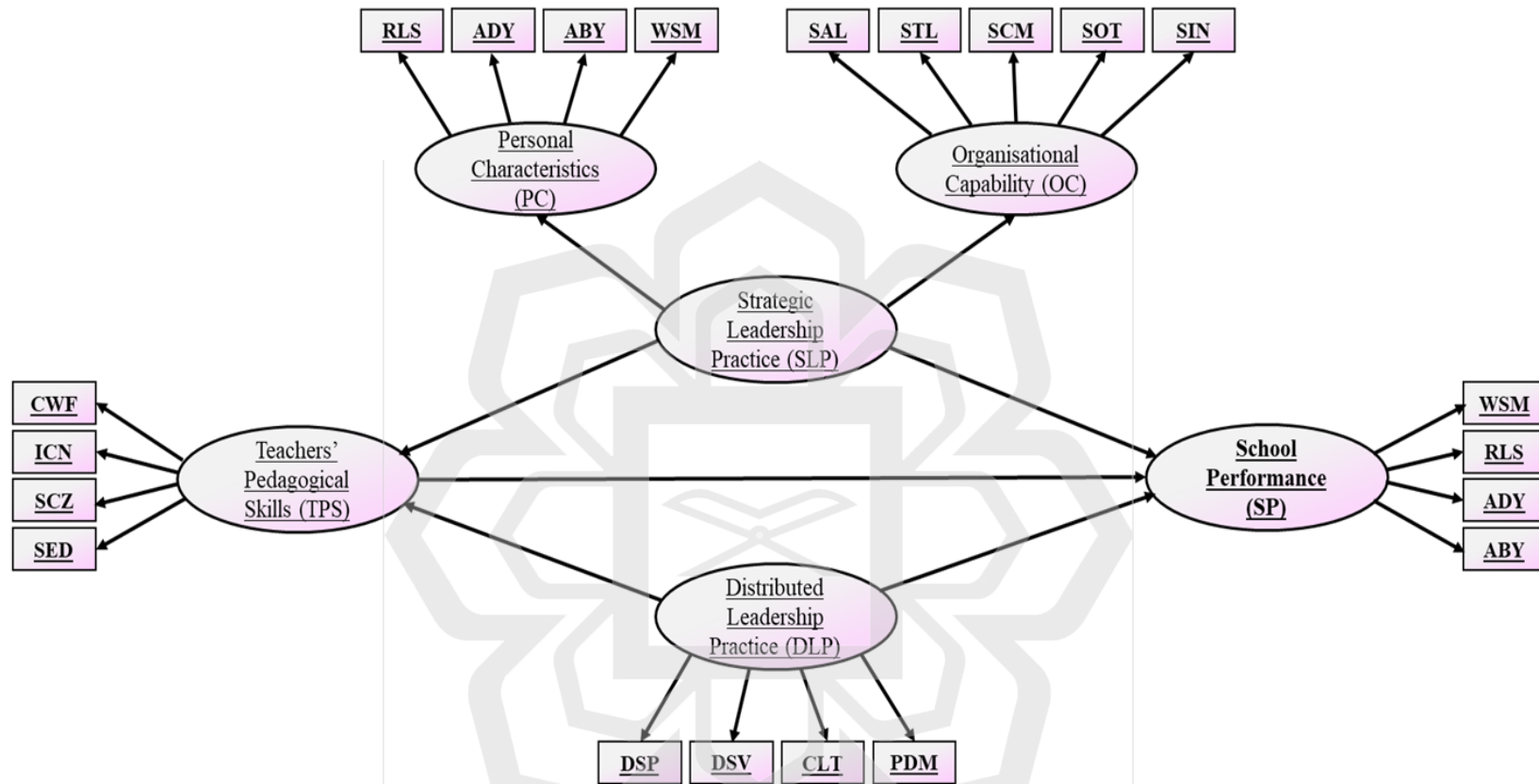
3. **Measurement vs. Reality:** A significant inconsistency lies between the holistic theory of SP (and PS) and the narrow measurement in most empirical studies. This creates a theory-method gap where models are tested with instruments that do not fully capture the constructs they purport to represent.
4. **Contextual Universality vs. Specificity:** A major unresolved tension is the assumption that leadership models developed in one context (often Anglo-American) are universally applicable. The stark lack of evidence from contexts like the Maldives makes this a critical inconsistency that this study directly engages with.

This synthesis confirms that while the conceptual logic of the integrated SL-DL→PS→SP model is strongly supported by theory and fragmentary evidence, it represents a significant empirical gap in its holistic formulation and a critical contextual gap in its application to the Maldivian educational landscape. It is precisely these gaps that the present study is designed to fill.

2.8 CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

2.8.1 Presentation of the Study's Conceptual Framework (Diagram)

To address the identified gaps, this study proposes an integrated conceptual model (see Figure 2.1) that synthesizes the four core constructs into a coherent pathway of influence. The model positions Strategic Leadership (SL) and Distributed Leadership (DL) as exogenous variables that influence the endogenous variable, School Performance (SP), both directly and indirectly through the critical mediator, Teachers' Pedagogical Skills (PS).



Notes: The abbreviations in Figure 2.1 are denoted here as follows;

Strategic Leadership Practice (SLP)				
Personal Characteristics (PC)	Personal Characteristics (OC)	Teachers' Pedagogical Skills (TPS)	Distributive Leadership Practice (DLP)	School Performance (SP)
Restlessness (RLS)	Strategic Alignment (SAL)	Care and Welfare (CWF)	Quality Distribution of Support (DSP)	Sufficient Knowledge (SKE)
Adaptive Capacity (ADY)	Strategic Translation (STL)	Inclusion (ICN)	Quality Distribution of Supervision (DSV)	Positive Attitude (PAT)
Absorptive Capacity (ABY)	Strategic Competence (SCM)	Socialisation (SCZ)	Cooperation in Leadership Team (CLT)	Appropriate Values (AVL)
Wisdom (WSM)	Strategic Orientation (SOT)	Academic Support (ASP)	Participative Decision Making (PDM)	Right Skills (RSL)
	Strategic Intervention (SIN)	Social Education (SED)		

Figure 2.1 Hypothesized Conceptual Model of Integrated Leadership, Pedagogical Skills, and School Performance

2.8.2 Presentation of the Study's Conceptual Framework (Diagram)

The model specifies the following key relationships, which are grounded in the theoretical synthesis from Section 2.7:

1. **Direct Effects of Leadership on Performance (SL→SP; DL→SP):** The model posits that both SL and DL have direct, though potentially modest, positive effects on SP. SL's direct influence stems from its role in setting direction and allocating resources (Hitt et al., 2007), while DL's direct influence flows from its creation of a collaborative and trusting school culture (Harris, 2008).
2. **Direct Effect of Pedagogy on Performance (PS→SP):** A strong direct path from PS to SP is hypothesized, affirming the established principle that teaching quality is the most powerful in-school determinant of student outcomes (Hattie, 2009; Blazar, 2016).
3. **Leadership-to-Pedagogy Pathways (SL→PS; DL→PS):** The model hypothesizes that both leadership forms directly enhance PS. SL does so by strategically prioritizing and resourcing professional learning (Dorukbaşı & Cansoy, 2024), while DL creates the collaborative infrastructure for pedagogical sharing and innovation (Leithwood et al., 2006).
4. **Mediating Role of Teachers' Pedagogical Skills (SL→PS→SP; DL→PS→SP):** This is the central proposition of the framework. It posits that a significant portion of the influence of SL and DL on SP is *indirect*, channeled through the enhancement of PS. This hypothesis tests the core logic of the leadership-for-learning chain, where leadership's ultimate impact is realized through improvements in classroom instruction.
5. **The Integrated Leadership Effect:** The model depicts SL and DL as correlated constructs, reflecting their synergistic, interdependent relationship as established in Section 2.7.1.

2.8.3 Derivation and Statement of Research Hypotheses

From the synthesized literature and the proposed conceptual model, a set of testable hypotheses is formally derived. These hypotheses are logically categorized into two tiers: measurement hypotheses (H_1 – H_4), which assess the validity and reliability of the constructs as operationalized in the Maldivian context, and structural hypotheses (H_5 – H_{10}), which test the proposed relationships among the constructs. This distinction ensures that the structural model is built upon psychometrically sound measurement foundations, aligning with best practices in structural equation modeling (Kline, 2023; Hair et al., 2021). It is important to note that in centralized educational systems such as the Maldives, leadership practices may be perceived as moderately enacted due to systemic constraints, while pedagogical skills and school performance may still be relatively strong, reflecting the influence of other factors such as teacher commitment, curriculum alignment, or community support. The model accommodates this potential asymmetry.

2.8.3.1 Measurement Hypotheses

1. **H₁:** The measurement model of strategic leadership practices (operationalized through the dimensions of strategic orientation, translation, alignment, and intervention) is valid and reliable.
2. **H₂:** The measurement model of distributed leadership practices (operationalized through the dimensions of shared mission, collaborative culture, participative decision-making, and teacher leadership) is valid and reliable.
3. **H₃:** The measurement model of teachers' pedagogical skills (operationalized through the knowledge bases and the dimensions of active and social pedagogy) is valid and reliable.
4. **H₄:** The measurement model of school performance (operationalized as a second-order latent construct reflected by the dimensions of knowledge, skills, attitudes, and values) is valid and reliable.

2.8.3.2 Structural Hypotheses

5. **H₅:** There is a direct and significant positive relationship between strategic leadership practices and school performance.
6. **H₆:** There is a direct and significant positive relationship between distributed leadership practices and school performance.
7. **H₇:** There is a direct and significant positive relationship between teachers' pedagogical skills and school performance.
8. **H₈:** Teachers' pedagogical skills significantly mediate the relationship between strategic leadership practices and school performance.
9. **H₉:** Teachers' pedagogical skills significantly mediate the relationship between distributed leadership practices and school performance.
10. **H₁₀:** The revised hypothesized structural equation model (after necessary modifications based on empirical data) demonstrates a valid and reliable fit, confirming the integrated relationships among strategic leadership, distributed leadership, teachers' pedagogical skills, and school performance.

These ten hypotheses provide a clear, sequential framework for the empirical testing in Chapters Four and Five.

2.9 CHAPTER SUMMARY

This chapter has undertaken a comprehensive, critical, and integrative review of literature to establish a robust theoretical and conceptual foundation for the study. Moving decisively beyond a descriptive summary, the review has synthesized diverse scholarly strands to construct a coherent argument addressing the relationships between Strategic Leadership (SL), Distributed Leadership (DL), Teachers' Pedagogical Skills (PS), and School Performance (SP) within the unique context of Maldivian secondary education.

The chapter commenced by establishing the imperative for an Integrated SL-DL Theoretical Framework (Section 2.2). Subsequent sections provided a deep, critical analysis of each core construct (Sections 2.3-2.6). The synthesis of these analyses (Section 2.7) revealed the complementary nature of SL and DL and positioned PS as the critical mediator in the leadership-performance chain, while also highlighting significant empirical and contextual gaps.

This synthesis culminated in the Conceptual Framework and Hypothesis Development (Section 2.8), which presented a testable model and derived ten specific research hypotheses. The model is explicitly designed to address the identified research gaps: the lack of an integrated SL-DL framework tested empirically, the under-explored mediating role of PS, the need for a holistic SP criterion, and the profound absence of such contextualized research in the Maldives.

In conclusion, this chapter has transformed a fragmented landscape of leadership and effectiveness studies into a coherent, critical, and contextually relevant research agenda. It has justified the study's position as a necessary investigation into the organizational drivers of holistic school quality in the Maldives. The established integrated framework and specific hypotheses now demand rigorous empirical testing. The findings from this testing will not only assess the model's validity but will also serve to refine and contextualize the theoretical framework, ensuring that the study contributes to both local understanding and global leadership discourse. This leads logically to Chapter Three: Research Methodology, which will detail the philosophical stance, research design, population and sampling procedures, instrumentation, data collection methods, and analytical techniques to be employed in testing the proposed model and hypotheses, thereby transitioning from theoretical formulation to empirical investigation.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter delineates the methodological framework employed to systematically address the research questions and hypotheses formulated in Chapters 1 and 2. Research methodology encompasses the systematic procedures, techniques, and strategies utilized to collect, analyze, and interpret data in pursuit of knowledge (Creswell & Creswell, 2018). The selection of appropriate methodological approaches is fundamental to ensuring the validity, reliability, and generalizability of research findings in educational inquiry.

The chapter commences with a comprehensive discussion of the research design, explicating the rationale for adopting a quantitative, non-experimental, descriptive-correlational approach. Subsequently, it provides a detailed description of the study population, encompassing all leadership personnel in Maldivian secondary schools. The determination of sample size follows established statistical guidelines, while the sampling techniques and procedures ensure representative selection across geographical and institutional strata.

A substantial portion of this chapter is dedicated to instrumentation, detailing the development, adaptation, and validation of the research questionnaire. This includes comprehensive discussion of item sources, the validation process through expert review, pilot testing procedures, and reliability assessments. The data collection procedure section explains the systematic approach employed to gather information from participants across the geographically dispersed Maldivian archipelago.

Data screening and preparation procedures are explicated to demonstrate the rigor applied in ensuring data quality and accuracy. The chapter concludes with an extensive discussion of the statistical techniques and analytical procedures employed, with particular emphasis on Structural Equation Modeling (SEM) as the primary analytical tool for testing the hypothesized relationships among variables.

Throughout this chapter, careful attention is paid to methodological transparency and replicability, ensuring that readers can fully comprehend the research processes and assess the appropriateness of the methods employed. The chapter maintains consistency with contemporary standards in educational research methodology while addressing specific contextual considerations relevant to the Maldivian educational system. The methodological approach described in this chapter directly facilitates the analyses and findings presented in Chapter 4.

3.2 RESEARCH DESIGN OF THE STUDY

3.2.1 Foundation and Rationale for Research Design Selection

Developing an appropriate research design constitutes a fundamental step in academic inquiry, as it establishes the framework for addressing research objectives systematically and rigorously. According to Borg and Gall (1989), a research design serves as a blueprint that guides the collection, measurement, and analysis of data. Creswell and Creswell (2018) similarly describe research design as a logical structure that connects philosophical assumptions, research strategies, and specific methods for data collection and analysis. An effective research design ensures that the study systematically addresses its research questions while maintaining internal validity, external validity, and reliability.

The selection of a research design must align with the nature of the research problem, the type of research questions posed, and the practical constraints within which the research is conducted (Fraenkel, Wallen, & Hyun, 2019). In educational research, this alignment ensures that the chosen methodology can adequately capture the phenomena under investigation while producing findings that are both scientifically sound and practically meaningful for educational policy and practice. The research design selected for this study reflects careful consideration of these principles, establishing a framework that enables systematic examination of relationships among leadership practices, pedagogical skills, and school performance in the Maldivian context.

3.2.2 Quantitative Research Paradigm

This study adopts a quantitative research paradigm, which aims to examine relationships among measurable variables and to draw inferences based on statistical analysis (Muijs, 2011; Creswell & Plano Clark, 2018). Quantitative research is characterized by its emphasis on numerical data, statistical procedures, and objective measurement of variables. This approach is particularly appropriate when the research objectives involve describing patterns, testing relationships, or examining the extent to which variables predict or explain outcomes (Gay, Mills, & Airasian, 2019). The quantitative paradigm aligns with the positivist and post-positivist philosophical traditions, which hold that reality can be objectively observed and measured, and that knowledge advances through systematic observation and empirical testing of hypotheses (Gall, Gall, & Borg, 2007).

In the context of this study, the quantitative approach enables systematic measurement of leadership practices, pedagogical skills, and school performance across a large sample of Maldivian secondary schools, facilitating generalizable conclusions about these phenomena. The choice of a quantitative approach is further justified by the nature of the research questions, which seek to describe current levels of variables and to examine the strength and direction of relationships among them. This approach provides the statistical rigor necessary to test the hypothesized model presented in Chapter 2 and to draw evidence-based conclusions that can inform educational policy and practice in the Maldives.

3.2.3 Non-Experimental Design

This research employs a non-experimental design, meaning that no variables are manipulated, and participants are not assigned to treatment conditions. Non-experimental designs are appropriate when the research goal is to observe and describe naturally occurring phenomena without intervention (Johnson & Christensen, 2020). In educational settings, many variables of interest—such as leadership practices, teacher pedagogical skills, and school performance—cannot or should not be experimentally manipulated for ethical, practical, or feasibility reasons. The non-experimental approach allows the researcher to study these variables as they naturally

occur in real-world educational contexts, thereby enhancing ecological validity (Shadish, Cook, & Campbell, 2002).

While non-experimental designs have limitations in establishing causal relationships compared to experimental designs, they are invaluable for describing current conditions, identifying associations among variables, and generating hypotheses for future experimental research. The non-experimental nature of this study reflects the reality that educational leadership practices cannot be randomly assigned or experimentally manipulated without disrupting school operations and potentially compromising educational outcomes. Instead, this design enables examination of existing patterns of leadership, pedagogical practice, and performance as they naturally occur within Maldivian secondary schools, providing foundational knowledge that can inform subsequent intervention research.

3.2.4 Descriptive-Correlational Design

Within the non-experimental framework, this study specifically employs a descriptive-correlational design. A descriptive-correlational design serves two primary purposes: first, to describe existing conditions, characteristics, or phenomena as they naturally occur; and second, to determine the degree of association or relationship between variables (Gay, Mills, & Airasian, 2019; Fraenkel et al., 2019). The descriptive component of this design enables the researcher to systematically document and characterize the levels of strategic leadership practices, distributed leadership, teachers' pedagogical skills, and school performance in Maldivian secondary schools. Through descriptive statistics such as means, standard deviations, and frequency distributions, the study provides a comprehensive picture of current educational leadership and performance conditions in the Maldives, addressing a significant gap in the literature identified in Chapter 2.

The correlational component allows examination of relationships among variables without establishing causation. Correlational research assesses the strength and direction of associations between two or more variables, typically through correlation coefficients, regression analysis, or structural equation modeling (Creswell & Creswell, 2018). This approach is appropriate when the goal is to measure variables quantitatively and to assess the strength and direction of relationships among them, particularly when experimental manipulation is not feasible or appropriate. The descriptive-correlational design is particularly well-suited to this study's objectives of examining how strategic leadership practices and distributed leadership relate to school performance, both directly and indirectly through teachers' pedagogical skills. This design enables the researcher to identify patterns of association that can inform educational policy and practice while acknowledging the limitations inherent in establishing causal claims from correlational data.

3.2.5 Cross-Sectional Survey Approach

Within the descriptive-correlational framework, this study employs a cross-sectional survey method. Cross-sectional research captures data at a single point in time, providing a "snapshot" of variables and their relationships as they exist at that moment (Creswell & Creswell, 2018; Check & Schutt, 2017). This approach contrasts with longitudinal designs, which collect data at multiple time points to examine change over time. The cross-sectional survey method offers several advantages for this study, including efficiency in data collection within a defined timeframe, making the research more manageable and cost-effective than longitudinal approaches (Fink, 2017). Additionally, surveys can reach a large, geographically dispersed population, enabling collection of data from leadership personnel across all 20 atolls of the Maldives (Fowler, 2014).

The standardization inherent in survey methodology provides uniform measurement across all participants, enhancing comparability and reducing measurement error (Dillman, Smyth, & Christian, 2014). Furthermore, cross-sectional data reflect current conditions, attitudes, and practices, providing up-to-date information relevant to contemporary policy decisions (Etikan & Bala, 2017). The

cross-sectional survey approach is particularly appropriate in educational and social science research for obtaining representative data efficiently from large populations. In the context of this study, it enables systematic collection of self-reported data on leadership practices, pedagogical skills, and school performance from school leaders across the entire Maldivian secondary education system, creating the dataset analyzed in Chapter 4.

3.2.6 Data Collection Method and Justification

Survey methods constitute the primary data collection strategy for this study. Surveys are widely used non-experimental strategies for collecting standardized information from large samples, facilitating description of population characteristics, exploration of variable relationships, and generation of data suitable for statistical analysis (Fink, 2017; Check & Schutt, 2017; Fowler, 2014). The study employed a self-administered questionnaire approach, utilizing two modes of administration: printed questionnaires for the pilot study phase, allowing for direct feedback on item clarity and comprehension, and Google Forms electronic questionnaires for the main study, enabling efficient distribution and data collection across geographically dispersed locations.

Self-administered questionnaires offer several advantages, including reduced interviewer bias, convenience for respondents, cost-effectiveness for large samples, and standardization of questions and response options (Dillman et al., 2014). The electronic format used in the main study additionally facilitated automatic data validation, reduced missing data through required responses, and enabled real-time data collection and monitoring. This dual-mode approach was strategically selected to balance the need for detailed feedback during instrument validation (pilot phase) with the efficiency requirements of large-scale national data collection (main study). The questionnaire itself, comprising 128 items across four major constructs, was designed to be completed within approximately 15-20 minutes to minimize respondent fatigue while collecting comprehensive data necessary for the analyses presented in Chapter 4.

3.2.7 Alignment Between Design and Analytical Approach

The chosen descriptive-correlational, cross-sectional survey design aligns closely with the analytical strategy employed in this study and detailed in Chapter 4. Descriptive statistics including means, standard deviations, and frequencies address the initial descriptive research questions regarding levels of variables, providing the foundation for understanding the current state of leadership and performance in Maldivian secondary schools. Correlation and regression analyses, implemented through Structural Equation Modeling (SEM), examine the hypothesized relationships among variables, testing both measurement models and structural relationships simultaneously.

SEM is particularly appropriate for descriptive-correlational designs because it enables simultaneous examination of multiple relationships among latent variables while accounting for measurement error (Kline, 2016; Byrne, 2016). This analytical approach operationalizes the correlational design by testing both measurement models—the relationships between observed indicators and latent constructs—and structural models—the relationships among latent constructs themselves. The integration of measurement and structural components within SEM allows for comprehensive evaluation of the theoretical framework proposed in Chapter 2, with results enabling assessment of both the quality of measurement instruments and the validity of hypothesized relationships. This methodological alignment ensures that the research design, data collection procedures, and analytical techniques work synergistically to address the research questions comprehensively and rigorously.

3.2.8 Justification for Design Selection

The selection of a quantitative, non-experimental, descriptive-correlational, cross-sectional survey design is justified by several interrelated considerations. First, the research questions focus on describing current levels of variables and examining relationships among them, which aligns precisely with the purposes of descriptive-correlational research. Second, experimental manipulation of school leadership practices or teacher skills would be impractical, unethical, and potentially disruptive to educational operations, necessitating a non-experimental approach. Third, the

geographically dispersed nature of Maldivian secondary schools across 20 atolls necessitates a data collection approach that can efficiently reach participants across this wide area, which electronic surveys accomplish effectively.

Fourth, limited prior research on these relationships in the Maldivian context makes descriptive-correlational research an appropriate first step before potentially pursuing experimental designs in future research. Fifth, the design produces findings that can immediately inform educational policy and practice by identifying current conditions and associations that may warrant intervention. Finally, the design enables comprehensive data collection within reasonable time and resource constraints while maintaining scientific rigor. These considerations collectively demonstrate that the selected design represents the optimal approach given the study's objectives, the characteristics of the target population, the practical constraints of the research context, and the need to produce findings with both theoretical significance and practical utility for Maldivian education stakeholders.

3.2.9 Limitations and Delimitations

While the chosen design offers numerous advantages, it is important to acknowledge its inherent limitations and the deliberate delimitations that define the study's scope. Regarding limitations, the cross-sectional nature of the design precludes conclusions about causality or changes over time, as data capture only a single point in time. Self-reported data may be subject to social desirability bias, where respondents provide answers they perceive as favorable rather than entirely accurate reflections of reality, or recall bias, where retrospective reporting may be influenced by memory limitations. The non-experimental design cannot control for all potential confounding variables that might influence the relationships observed among leadership practices, pedagogical skills, and school performance. Additionally, common method variance may inflate correlations when all data come from the same source at the same time, though this concern is partially mitigated through careful instrument design and statistical controls discussed in Chapter 4.

Regarding delimitations, the study deliberately focuses on leadership personnel's perspectives rather than including teacher or student perspectives, recognizing that comprehensive multi-stakeholder assessment, while valuable, would exceed the scope of a single dissertation study. The research concentrates specifically on secondary schools, excluding primary education, reflecting a strategic decision to focus on one educational level where leadership structures are more formalized and complex. The timeframe is deliberately limited to a single point in time rather than longitudinal tracking, prioritizing breadth of coverage across the entire nation over depth of temporal analysis. These limitations are acknowledged but do not diminish the value of the research for its intended purposes. The study's design represents the most appropriate approach given the research questions, population characteristics, and practical constraints, while providing a foundation for future research that may address these limitations through alternative designs such as longitudinal studies, experimental interventions, or multi-source assessments.

3.3 POPULATION AND SAMPLING STRATEGY

3.3.1 Definition and Characteristics of the Study Population

The population of a study refers to the entire group of individuals or units to which the researcher intends to generalize findings (Fraenkel, Wallen, & Hyun, 2019). In educational research contexts, the population encompasses all individuals or entities that share specific defining characteristics relevant to the research objectives. Clearly defining the target population is essential because it establishes the boundaries within which research findings can be legitimately generalized and interpreted (Ary, Jacobs, Sorensen, & Walker, 2018). The generalizability of research findings—the extent to which results from a sample can be applied to the larger population—depends critically on how well the sample represents the population and how clearly the population is defined (Shadish et al., 2002). A precisely defined population enables researchers to make appropriate sampling decisions, conduct meaningful statistical inferences, and communicate the scope of their findings to other researchers and practitioners.

For this study, the target population comprised all leadership personnel in Maldivian secondary schools. As of 2024, there were 217 secondary schools across the Republic of Maldives, distributed throughout 20 administrative atolls. According to data provided by the Ministry of Education (2024), these schools collectively housed 1,641 individuals occupying formal leadership positions. Leadership roles within Maldivian secondary schools encompass various positions that carry administrative, instructional, and strategic responsibilities. These include principals who serve as chief executive officers responsible for overall school management, strategic direction, and accountability for school performance; deputy principals who assist in school management and often assume responsibility for specific operational domains; leading teachers who provide instructional leadership, mentor other teachers, and contribute to curriculum and pedagogical decisions, in addition to the daily pedagogical practice; heads of departments who lead subject-area departments (particularly common in private schools) and are responsible for curriculum coordination, teacher supervision, and instructional quality within their domains; and school administrators responsible for operational management, student affairs, and administrative functions.

These categories collectively represent the leadership cadre within the national secondary education system. These individuals occupy positions that enable them to influence school policies, practices, and outcomes, making them appropriate respondents for a study examining leadership practices and their relationships with pedagogical skills and school performance. The complete distribution of leadership positions across all 217 secondary schools in the Maldives is provided in Appendix D, showing the geographical spread across all 20 atolls and the variation in leadership structure sizes across schools. This comprehensive population frame ensures that the sampling procedures described subsequently draw from a well-defined and thoroughly documented target population.

The study implemented a two-phase sampling approach consisting of a pilot study phase followed by the main study phase. Following the pilot phase, which utilized 22 schools with 231 leadership personnel for instrument refinement, the remaining population available for the main study comprised 195 secondary schools with 1,410 leadership personnel. Table 3.1 summarizes the population characteristics for the main study.

Table 3.1

Population of Leadership Personnel in Maldivian Secondary Schools for the Main Study

Category	Number
Total secondary schools	195
Leadership personnel per school	Principals, Vice Principals, Heads of Department
Total leadership population (N)	1,410
Pilot schools excluded	Yes
Sampling frame source	Ministry of Education (official records)

3.3.2 Unit of Analysis and Analytical Implications

A critical methodological consideration is the specification of the unit of analysis—the entity about which data are collected and analyzed (Babbie, 2020). This study's unit of analysis is the individual school leader, not the school as an organizational entity. This distinction is important for several interrelated reasons that directly affect both data collection and the analytical procedures detailed in Chapter 4. First, the study examines leadership practices and perceptions as experienced and reported by individual leaders, recognizing that different leaders within the same school may hold varying perspectives based on their roles, experiences, and positions within the organizational hierarchy. Second, individual-level analysis enables examination of relationships among variables at the person level, which is appropriate for understanding how individual leadership practices relate to perceptions of pedagogical skills and school performance.

Third, treating individuals as the unit of analysis yields a larger sample size—1,641 potential participants compared to 217, if schools were the unit—substantially enhancing statistical power for detecting relationships and enabling more sophisticated analytical techniques such as Structural Equation Modeling. Fourth, leadership theories often conceptualize leadership as enacted by individuals, even when distributed across multiple organizational members, making individual-level analysis theoretically appropriate. While schools serve as the organizational context and stratification framework for sampling, the primary focus of analysis remains on individual leaders' responses. This approach recognizes that leadership is a multi-level phenomenon but focuses analytical attention at the individual level, consistent with the research questions posed and the theoretical framework developed in Chapter 2. The implications of this decision are reflected throughout Chapter 4, where all analyses treat individual responses as the fundamental data points, with school membership serving as a contextual variable rather than the primary unit of aggregation.

3.3.3 Sampling Rationale and Strategy Selection

Sampling involves selecting an appropriate and representative subset from a target population to make statistical inferences about that population (Fraenkel et al., 2019). In most educational research, the population of interest is too large, too geographically dispersed, or too resource-intensive to study in its entirety, necessitating the selection of a sample (Gall et al., 2007). Effective sampling is crucial because the quality of inferences about a population depends on how well the sample represents that population (Cochran, 1977). A well-designed sampling procedure enhances both internal validity—the accuracy of conclusions within the sample—and external validity—the generalizability of findings to the broader population. According to Barreiro and Albandoz (2001), three major considerations guide effective sampling: the choice of sampling method, the determination of sample size, and the estimation of sampling error.

Sampling methods are broadly classified into probability sampling and non-probability sampling categories (Etikan, Musa, & Alkassim, 2016). Probability sampling methods ensure that every member of the population has a known, non-zero probability of selection, enabling statistical inference and generalization while minimizing selection bias and allowing calculation of sampling error (Levy & Lemeshow, 2013). Non-probability sampling methods do not provide all population members with a known probability of selection and, while often more convenient and less expensive, limit the researcher's ability to make statistical generalizations to the population (Etikan et al., 2016). This study employed stratified random sampling for the main study and purposive sampling for the pilot study, with each technique selected for its appropriateness to the specific phase's objectives and the unique characteristics of the Maldivian educational context.

3.3.4 Two-Phase Sampling Procedure

The study implemented a two-phase sampling approach consisting of a pilot study phase followed by the main study phase. This sequential approach is considered best practice in survey research because it allows for instrument refinement and procedural adjustments before full-scale data collection (Fraenkel et al., 2019). The pilot study phase served multiple critical functions including testing clarity and comprehensibility of questionnaire items, assessing adequacy of response scales, evaluating time required for completion, identifying technical issues with administration procedures, conducting preliminary assessment of reliability and validity, and providing training in data collection and management procedures.

For the pilot phase, purposive sampling—also called judgmental sampling—was employed. Purposive sampling is a non-probability technique in which the researcher uses judgment to select cases that will best meet the research objectives (Etikan et al., 2016). While purposive sampling limits statistical generalization, it is appropriate for pilot studies where the goal is to obtain a diverse range of responses to test instrument quality rather than to make population inferences (Teddlie & Yu, 2007). The pilot study included 231 leadership personnel from 22 secondary schools, representing approximately 10% of the total population. Baker (1994) recommends

that pilot samples comprise 10-20% of the main study sample, and this study's pilot falls within that recommended range.

Schools were purposively selected to ensure diversity across multiple dimensions including geographical diversity with schools from different atolls representing northern, central, and southern regions; school type diversity encompassing both public and private schools; school size diversity including small, medium, and large schools; and governance diversity representing different administrative structures and contexts. This purposive approach ensured that the instrument would be tested across the full range of contexts in which it would ultimately be administered, enabling identification of context-specific issues that might not emerge in a more homogeneous pilot sample (Perneger, Courvoisier, Hudelson, & Gayet-Ageron, 2015). While the pilot sample of 231 is relatively large compared to typical pilot studies, this size was justified by several considerations including the need for adequate sample size for reliable Cronbach's alpha calculations (Hertzog, 2008), the multi-construct nature of the instrument with 128 items across four major constructs requiring sufficient sample for reliability assessment of each subscale, the benefit of preliminary factor analysis for construct validity assessment (Comrey & Lee, 1992), the contextual diversity of Maldivian schools requiring larger pilot sample to ensure instrument functionality across all contexts, and the provision of more stable estimates of item statistics, reducing risk of incorrect decisions about item retention based on unstable pilot data.

Following instrument refinement based on the pilot study, the main study employed stratified random sampling as described in Section 3.3.5. The target population for the main study comprised 1,410 leadership personnel from 195 secondary schools, excluding pilot schools.

3.3.5 Stratified Random Sampling for the Main Study

Stratified random sampling is a probability sampling technique in which the population is divided into homogeneous subgroups called strata, and random samples are drawn from each stratum (Cochran, 1977; Lohr, 2019). This method offers several advantages over simple random sampling, particularly when the population contains distinct subgroups. It enhances representativeness by ensuring that all important subgroups are represented proportionally in the sample, increases precision by reducing sampling error through heterogeneity between strata and homogeneity within strata (Levy & Lemeshow, 2013), facilitates subgroup analysis by enabling comparison of results across different strata if desired, and improves statistical efficiency by often achieving the same precision as simple random sampling with a smaller sample size, or greater precision with the same sample size (Lohr, 2019).

Given the geographical dispersion of Maldivian secondary schools across 20 atolls and the diversity in school governance and size, stratification was implemented based on two primary criteria. The primary stratification criterion was geographical location, specifically atoll-based stratification. The Maldives consists of 20 administrative atolls spanning approximately 820 kilometers from north to south, and schools in different atolls may face varying contextual factors including accessibility and connectivity to the capital, local economic conditions and development levels, community characteristics and expectations, and availability of qualified teachers and resources. Atoll-based stratification ensures that all geographical regions are represented proportionally in the sample, enhancing the national representativeness of findings and acknowledging that educational leadership and school performance may be influenced by geographical and contextual factors unique to different regions of the archipelago.

The secondary stratification criterion was school type, distinguishing between public (government) schools and private schools. The Maldivian secondary education system includes both sectors, which differ in governance structures, resource availability, accountability mechanisms, and stakeholder expectations. Stratifying by school type ensures representation of both sectors, enabling findings to reflect the full diversity of the secondary education system. After stratifying the population by atoll and school type, simple random sampling was conducted within each stratum using

SPSS software to generate random numbers corresponding to leadership personnel listed in Ministry of Education records. This procedure ensured that within each geographical and institutional stratum, every eligible leader had an equal probability of selection, thereby maintaining the probability sampling principle and minimizing selection bias. The combination of stratification to ensure representativeness across key subgroups and randomization to ensure unbiased selection within subgroups provides a scientifically rigorous sampling approach that balances representativeness with statistical principles (Kalton, 1983).

3.3.6 Sample Size Determination and Justification

Determining an adequate sample size is critical for ensuring statistical power, precision of estimates, and generalizability of findings (Cohen, 1988; Krejcie & Morgan, 1970). Both undersized and oversized samples pose problems: undersized samples may lack sufficient power to detect significant effects, while oversized samples consume unnecessary resources with minimal incremental benefit (Chuan, 2006). The total leadership population across 217 Maldivian secondary schools was 1,641 individuals (Ministry of Education, 2024). However, 231 participants from 22 schools were allocated to the pilot study phase, leaving a population of 1,410 leadership personnel from 195 schools for the main study.

Sample size determination followed the widely cited table developed by Krejcie and Morgan (1970), which calculates required sample sizes based on population size, desired confidence level, and acceptable margin of error. This table has been extensively validated and is commonly used in educational and social science research (Bartlett, Kotrlik, & Higgins, 2001). As shown in Table 3.2, for a population of 1,410, the Krejcie and Morgan (1970) table recommends a minimum sample size of approximately 304 respondents at a 95% confidence level and 5% margin of error. This recommendation aligns closely with The Research Advisors (2006), who suggest 306 respondents for the same population parameters.

Table 3.2*Krejcie and Morgan's (1970) Sample Size Guidelines*

Population Size (N)	Sample Size (S)
800	260
900	269
1,000	278
1,100	285
1,200	291
1,300	297
1,400	302
1,410 (Study Population)	≈304
1,500	306
1,600	310
1,700	313
1,800	317
1,900	320
2,000	322

Note. The Krejcie and Morgan (1970) table indicates that for populations between 1,400 and 1,500, the recommended minimum sample size ranges from 302 to 306. Based on interpolation within this range, a minimum sample size of approximately 304 was adopted. The achieved valid sample ($n = 372$) exceeded this threshold.

Additional considerations for sample size in SEM analysis were also consulted, with Hair et al. (2019) suggesting that for SEM, a minimum sample size of 200 is generally adequate, with larger samples of 300-400 preferred for complex models. Given that this study employs SEM to test relationships among multiple latent constructs, the recommended sample of 304 aligns well with SEM requirements.

In practice, questionnaires were distributed to all 195 remaining schools to maximize inclusiveness and potential response rates, accounting for potential non-response and ensuring adequate representation across all atolls. The total usable responses received numbered 471. After univariate outlier removal based on standardized score criteria detailed in Section 3.6, 395 cases remained. Following multivariate outlier detection using Mahalanobis distance, the final analytical sample comprised 372 valid responses. This final sample of 372 exceeds the recommended minimum of 304, providing several advantages including enhanced statistical power that increases the ability to detect statistically significant effects and reduces Type II error (Cohen, 1988; Hair et al., 2019), improved precision yielding more precise estimates with narrower confidence intervals (Lohr, 2019), greater representativeness that better captures population diversity and enhances external validity (Shadish et al., 2002), a buffer against potential additional data loss if further cleaning becomes necessary, and SEM robustness as sample sizes above 300 provide more stable parameter estimates and fit indices (Kline, 2016). The decision to retain 372 respondents for final analysis reflects contemporary recommendations that emphasize adequacy over minimalism in sample size determination, prioritizing statistical power, precision, and representativeness while maintaining data quality through rigorous screening procedures.

Of the 195 schools invited to participate, 185 schools provided at least one response, yielding an excellent school-level participation rate of 94.9%. The final sample of 372 valid responses from 185 schools ensures broad geographical representation, with participants from all 20 atolls included in the final dataset. This high school-level participation rate enhances confidence that the sample represents the full diversity of Maldivian secondary schools, with the within-school response rate variation being typical in survey research and addressed through random selection procedures that did not depend on complete responses from every school.

3.3.7 Consistency and Independence Between Sampling Phases

To maintain methodological integrity and logical consistency, both pilot and main studies adhered to parallel principles despite employing different sampling techniques. Both phases drew from the same population of leadership personnel in Maldivian secondary schools, targeted the same inclusion criteria focusing on individuals in formal leadership positions including principals, deputies, leading teachers, heads of departments, and administrators, treated individual leaders as the unit of analysis, included schools from across all 20 atolls ensuring geographical breadth, and maintained independence through exclusion of pilot schools from main study participation to prevent contamination and ensure sample independence.

The primary methodological difference—purposive selection for the pilot versus random selection for the main study—reflects the different purposes of each phase rather than an inconsistency in approach. The pilot aimed to test instrument quality across diverse contexts, requiring purposive selection to maximize diversity and ensure representation of the full range of school types, sizes, and locations. The main study aimed to make population inferences, requiring random selection for representativeness and unbiased estimation of population parameters. This differentiation is methodologically appropriate and reflects best practices in survey research (Fowler, 2014), with the pilot phase serving its intended function of instrument validation and refinement while the main study serves its intended function of hypothesis testing and population inference, as evidenced in the analyses presented in Chapter 4.

3.3.8 Sampling Error and Representativeness Considerations

Sampling error refers to the natural variability that occurs because a sample, rather than the entire population, is studied (Lohr, 2019). Even with perfect probability sampling, sample statistics will differ somewhat from population parameters due to chance, with the magnitude of sampling error inversely related to sample size and estimable using standard error calculations. With a sample of 372 from a population of 1,410, and assuming maximum variability where p equals 0.5, the sampling error can be calculated yielding approximately plus or minus 4.6% at the 95% confidence level,

which is well within acceptable limits for educational research where plus or minus 5% is typically considered acceptable.

Non-response error occurs when individuals selected for the sample do not participate, and those who do not respond differ systematically from those who do respond (Dillman et al., 2014). This study addressed potential non-response error through several strategies including multiple contact attempts with initial email distribution followed by reminders and personal WhatsApp messages, an extended response period allowing 1-2 months for completion with extensions when needed, administrative support through engagement of school principals to encourage participation, follow-up telephone calls to non-responding schools, and achievement of a high 94.9% school-level participation rate that reduces non-response bias. While individual-level response rates within schools varied, the broad school-level participation and geographical representation across all 20 atolls suggest that non-response bias is unlikely to substantially affect the generalizability of findings presented in Chapter 4.

The final sample's representativeness can be assessed through comparison with the population characteristics. The sample includes schools from all 20 atolls in proportions roughly consistent with their presence in the population, represents both public and private schools, includes leaders from all leadership position categories, and spans schools of varying sizes from small island schools to large urban schools. This comprehensive coverage enhances confidence that the findings generated from the sample, as detailed in Chapter 4, can be generalized to the population of Maldivian secondary school leaders with appropriate acknowledgment of the methodological limitations discussed in Section 3.2.9.

3.4 RESEARCH INSTRUMENTATION

3.4.1 Conceptual Foundation of Instrumentation

Instrumentation constitutes a critical component of quantitative educational research, as the quality of research instruments directly affects the validity and reliability of research findings (Creswell & Creswell, 2018). Fraenkel et al. (2019) define instrumentation as the comprehensive process of data collection using specially designed tools or devices, with an instrument referring to any systematic method employed for gathering research data. Well-designed instruments produce consistent measurements that accurately reflect the constructs they intend to measure, while poorly designed instruments introduce measurement error that can obscure true relationships among variables or lead to erroneous conclusions (DeVellis, 2017).

In survey research, the questionnaire serves as the primary data collection instrument, and developing an effective questionnaire requires careful attention to multiple considerations including theoretical grounding of constructs, clear and unambiguous item wording, appropriate response scales, logical organization of items, and rigorous validation procedures (Fowler, 2014). The instrument development process for this study reflected these considerations systematically, resulting in a questionnaire that demonstrates strong psychometric properties as evidenced by the reliability and validity assessments presented in this chapter and the successful measurement model evaluations detailed in Chapter 4. This section details the structure, development, adaptation, and validation of the research questionnaire, providing the methodological foundation for understanding the measurement quality of the data analyzed in subsequent chapters.

3.4.2 Questionnaire Structure and Organization

The research questionnaire was systematically organised into five sections, each serving a distinct purpose within the broader research framework. Section A collected demographic information using eight items addressing gender, age category, highest academic qualification, nationality, current workplace (optional), years of service in education, current leadership position, and years of experience in the current role.

These demographic variables were included to describe sample characteristics, assess sample representativeness, and enable supplementary analyses examining whether relationships among the study variables differ across demographic subgroups.

Section B measured Strategic Leadership Practices using 49 items distributed across nine theoretically derived dimensions, assessing the extent to which school leaders engage in strategic thinking, planning, alignment, intervention, and adaptive action. These dimensions encompass both the personal characteristics of strategic leaders and the organisational capabilities they enact and develop, reflecting the comprehensive conceptualisation of strategic leadership presented in Chapter Two.

Section C assessed Distributed Leadership Practices through 30 items across four dimensions, capturing the quality of leadership distribution, supervisory support, collaborative leadership processes, and participative decision making within schools. Section D measured Teachers' Pedagogical Skills using 29 items across five dimensions, reflecting both technical instructional skills and broader professional competencies related to care, inclusion, socialisation, academic support, and social education. Section E evaluated School Performance from the leadership perspective using 20 items across four dimensions, aligned with the Maldivian National Curriculum Framework and focusing on student learning outcomes in terms of knowledge, skills, attitudes, and values.

In total, the questionnaire comprised 128 substantive items, excluding demographic questions. All items were administered during the main data collection phase. The instrument was designed to be completed within approximately 15–20 minutes to minimise respondent fatigue while ensuring comprehensive coverage of all constructs. Any subsequent item refinement occurred at the analysis stage and does not alter the structure of the questionnaire described here. The detailed distribution of items across constructs and their sources is presented in Table 3.3, with the complete questionnaire provided in Appendix A.

Table 3.3*Details of Items, Variables, and Constructs Investigated*

Variable	Construct Category	Constructs Measured	Item Codes
Strategic Leadership Practices	Organisational Capabilities	Strategic Orientation	B1–B5
		Strategic Translation	B6–B10
		Strategic Alignment	B11–B15
		Strategic Intervention	B16–B19
	Personal Characteristics	Strategic Competence	B20–B24
		Restlessness	B25–B29
		Adaptive Capacity	B30–B34
		Absorptive Capacity	B35–B40
		Wisdom	B41–B49
Distributed Leadership Practices	—	Quality Distribution of Support	C1–C10
		Quality Distribution of Supervision	C11–C16
		Cooperation in Leadership Team	C17–C23
		Participative Decision Making	C24–C30
Teachers' Pedagogical Skills	—	Care and Welfare	D1–D6
		Inclusion	D7–D12
		Socialisation	D13–D16
		Academic Support	D17–D22
		Social Education	D23–D29
School Performance	—	Students' Sufficient Knowledge	E1–E5
		Students' Right Skills	E6–E10
		Students' Positive Attitude	E11–E15
		Students' Appropriate Values	E16–E20

Note. Hairuddin (2012); National Institute of Education, Maldives (2015).

3.4.3 Item Adaptation Process and Source Documentation

Rather than developing entirely new items, this study adopted an instrument adaptation approach, drawing items from validated instruments used in previous research and from official educational frameworks. Instrument adaptation involves modifying existing items to fit a new context while maintaining the theoretical constructs the items are intended to measure (Gjersing, Caplehorn, & Clausen, 2010). The adaptation approach offers several advantages including established validity from demonstrated effectiveness in previous research contexts, theoretical grounding reflecting well-established frameworks, efficiency in reducing development time and resources compared to creating entirely new items, comparability enabling potential comparison with findings from other contexts, and reduced risk of fundamental measurement problems compared to untested new items. However, adaptation requires careful attention to ensure items remain appropriate in the new context (Beaton, Bombardier, Guillemin, & Ferraz, 2000), necessitating those items be linguistically appropriate, culturally relevant, and contextually meaningful for the target population.

Items measuring Strategic Leadership Practices were comprehensively adapted from Hairuddin (2012), who developed and validated an extensive strategic leadership instrument for Malaysian schools measuring both organizational capabilities including strategic orientation, translation, alignment, and intervention, and personal characteristics of strategic leaders including strategic competence, restlessness, adaptive capacity, absorptive capacity, and wisdom. The Maldivian context shares several similarities with Malaysia as both are Islamic majority nations with similar educational administrative structures, making Hairuddin's instrument particularly appropriate for adaptation, though items were reviewed and modified to ensure cultural and linguistic appropriateness for Maldivian schools. Items measuring Distributed Leadership Practices were adapted from two primary sources: Jensen (2010) from the Grattan Institute's work on measuring teaching and leadership effectiveness in Australian schools, providing items related to leadership distribution and collaborative leadership practices, and Hulpia, Devos, and Van Keer (2012) whose research on distributed leadership and teacher organizational commitment in Belgian schools contributed items measuring leadership team cooperation and

participative decision-making. These sources were selected because they reflect contemporary distributed leadership theory and have demonstrated reliability and validity in diverse educational contexts.

Items measuring Teachers' Pedagogical Skills were adapted from the National Curriculum Framework developed by the National Institute of Education and Ministry of Education (NCF–NIE–MOE, 2015), which articulates expected teacher competencies aligned with national education goals, ensuring items drawn from this framework have direct relevance to Maldivian educational standards and expectations, supplemented by additional items from Jensen (2010) particularly for dimensions related to academic support and social education. Items measuring School Performance were primarily adapted from the NCF–NIE–MOE (2015), which defines school performance in terms of student outcomes across four domains: sufficient knowledge, right skills, positive attitudes, and appropriate values, reflecting the Maldivian government's holistic conception of education quality that extends beyond academic achievement to include broader developmental goals. Using the national curriculum framework as the primary source for performance indicators ensures that the instrument measures performance in ways consistent with national educational priorities and accountability expectations.

All adapted items underwent systematic contextual adaptation to ensure appropriateness for the Maldivian secondary school context through several iterative processes. Language simplification reduced complex or technical language to ensure accessibility for all respondents, recognizing that English may be a second language for some Maldivian educators. Terminology alignment ensured educational terms were consistent with Maldivian usage and Ministry of Education documents. Cultural appropriateness reviews identified and modified references that might not resonate in the Maldivian context. Context-specific examples were either removed or replaced with Maldivian equivalents where original items included context-specific examples. Structural adjustments-maintained consistency across the questionnaire while preserving theoretical meanings. This adaptation process was conducted through iterative rounds of review by the researcher and supervisors, followed by expert validation as described in Section 3.4.5, ensuring that adapted items retained their

theoretical meaning while gaining contextual appropriateness for the Maldivian educational system.

3.4.4 Response Scale Selection and Unification

The questionnaire employed a 5-point Likert scale throughout all substantive sections, with Likert scales being ordered category rating scales that require respondents to indicate their level of agreement with statements or their perceptions of frequency, quality, or intensity of behaviors or attributes (Likert, 1932; Johns, 2010). A key decision in questionnaire design involves determining the optimal number of response categories, and according to Johns (2010), a 5-point scale offers an optimal balance between providing sufficient response options to capture nuanced opinions while remaining manageable and not overwhelming for respondents. Christensen and Johnson (2004) note that 4-point and 5-point rating scales are most commonly used in educational research due to their effectiveness.

The rationale for selecting a 5-point scale includes several considerations. First, adequate discrimination is provided as five categories offer sufficient differentiation for respondents to express varying degrees of agreement or perception without excessive complexity (Preston & Colman, 2000). Second, inclusion of a neutral option through the 5-point scale's midpoint allows respondents to indicate uncertainty or ambivalence when appropriate (Garland, 1991). Third, research suggests that 5-point scales optimize reliability without sacrificing validity (Lozano, García-Cueto, & Muñiz, 2008). Fourth, studies indicate respondents often prefer 5-point scales, finding them neither too restricting nor too complex (Preston & Colman, 2000). Fifth, five-point scales treated as interval data in SEM and regression analysis generally produce robust results (Norman, 2010).

An important revision based on examiner feedback involved unifying the response scale across all constructs. The initial questionnaire used different response anchors for different sections, with Strategic Leadership and Distributed Leadership using "Very Untrue of Me" to "Very True of Me" while Teachers' Pedagogical Skills and School Performance used "Strongly Disagree" to "Strongly Agree." The examiner

concern noted that inconsistent scales across constructs created unnecessary measurement complexity, potentially reducing comparability and introducing measurement error. In response, all sections were revised to employ a single uniform scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) with anchors of Strongly Disagree, Disagree, Neutral or Neither Agree nor Disagree, Agree, and Strongly Agree.

This unification offers several advantages including consistency where respondents use the same mental framework throughout the questionnaire, reduced confusion eliminating cognitive switching between different response frameworks, enhanced reliability through consistent scaling that may improve response reliability, simplified analysis as uniform scaling simplifies data interpretation and analysis, and enhanced comparability of means and standard deviations across constructs. The unified scale maintains the 5-point structure while providing clear, unambiguous anchors that respondents can easily interpret across all question types. This revision addressed a significant methodological concern raised during examination while strengthening the overall instrument quality and facilitating the comparative analyses presented in Chapter 4.

3.4.5 Comprehensive Validation Procedures

Validation refers to the process of gathering evidence to support the interpretation and use of test scores for their intended purposes (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014). Validation is not a single event but an ongoing process of accumulating evidence from multiple sources to support the inference that an instrument measures what it claims to measure. This study implemented a multi-stage validation process incorporating face validity, content validity, and construct validity assessments, with this comprehensive approach aligning with contemporary validation standards that emphasize multiple sources of validity evidence (Messick, 1995; Kane, 2006).

Face validity refers to the extent to which an instrument appears, on its surface, to measure what it is intended to measure (Nunnally & Bernstein, 1994). While face validity is considered the weakest form of validity from a technical measurement standpoint, it serves important pragmatic functions (Holden, 2010) including respondent acceptance where instruments with strong face validity are more likely to be taken seriously by respondents thereby enhancing data quality, stakeholder credibility where face valid instruments are more credible to practitioners and policymakers, and initial screening providing an initial check before more resource-intensive validation procedures. Face validity was assessed through expert review and pilot participant feedback involving three experts who reviewed the questionnaire: two faculty members from the Kulliyah of Education at International Islamic University Malaysia including Prof. Dr. Hairuddin Bin Mohd. Ali who is an expert in educational leadership and Assoc. Prof. Dr. Mohd. Burhan Ibrahim who is an expert in educational research methods, and one curriculum development officer from the Ministry of Education in the Maldives who possessed intimate knowledge of the Maldivian educational system, terminology, and policy context.

Experts evaluated the instrument using standardized criteria adapted from Oluwatayo (2012) including appropriate format and layout, clarity and absence of ambiguity in items, appropriate difficulty level for target respondents, correct spelling and grammar, adequate spacing and visual appeal, reasonableness of items relative to instrument purpose, and cultural and contextual appropriateness. Additionally, during the pilot study, one participant from each of the 22 pilot schools provided feedback on item clarity and comprehensibility, with space provided after each section for participants to comment on unclear or problematic items. Over 95% of items were rated as "cleared" meaning clear and appropriate by experts and pilot participants. Items identified as ambiguous were revised based on specific feedback through simplification of complex sentences, clarification or replacement of ambiguous terms, modification of culturally unfamiliar concepts, and splitting or clarification of items with double-barrelled content asking about two things simultaneously. The high clearance rate indicates strong face validity, suggesting the instrument appears appropriate and relevant to both experts and potential respondents.

Content validity refers to the extent to which a measurement instrument comprehensively and representatively samples the domain of content it is intended to measure (Sireci & Faulkner-Bond, 2014). According to Haynes, Richard, and Kubany (1995), content validity addresses two primary questions: whether the items adequately represent the content domain and whether the items are relevant to the construct being measured. Unlike construct validity which is assessed empirically through statistical analysis, content validity is assessed through systematic expert judgment (Rubio, Berg-Weger, Tebb, Lee, & Rauch, 2003). Content validity is grounded in the alignment between theoretical definitions of constructs and operational definitions instantiated in measurement items (Messick, 1995).

Content validity was assessed through a structured expert review process using an adapted version of Lawshe's (1975) Content Validity Ratio approach. The three-person expert panel described above evaluated each item using a protocol where experts were provided with clear theoretical definitions of each construct and its dimensions, then rated each item as Essential meaning the item is essential for measuring this construct, Useful but not essential meaning the item is related but not critical, or Not necessary meaning the item does not measure the construct adequately. For each item, the Content Validity Ratio was calculated as $CVR = \frac{\text{number of experts rating the item as essential} - 1}{N - 1}$, where N equals total number of experts. Items with CVR of 0.67 or higher, indicating at least 2 of 3 experts rated the item as essential, were retained while items with lower CVR values were reviewed for revision or elimination.

A critical enhancement to content validity involved including a curriculum development officer from the Maldives Ministry of Education on the expert panel, addressing examiner concerns that validation by research supervisors alone, while methodologically sound, might not adequately address contextual and policy-specific appropriateness. The MOE expert provided essential perspectives on alignment with national curriculum and policy frameworks, appropriateness of terminology in the Maldivian context, cultural relevance and acceptability of items, practical feasibility of behaviors and practices described in items, and consistency with national educational priorities and initiatives. This inclusion strengthens the claim that the instrument possesses content validity specifically for the Maldivian educational

context, not merely general educational contexts. The content validation process resulted in high CVR values for most items indicating strong expert consensus on item relevance, revision of approximately 8-10 items with lower CVR values to improve clarity and relevance, elimination of 3 items that experts judged redundant or insufficiently relevant, addition of clarifying language to several items based on expert suggestions, and confirmation of construct coverage with experts agreeing that the item sets comprehensively represented each theoretical construct.

Construct validity addresses the fundamental question of whether the instrument actually measures the theoretical construct it purports to measure (Cronbach & Meehl, 1955; Messick, 1995). Construct validity is considered the overarching form of validity that subsumes other forms, as it addresses the degree to which theoretical constructs are successfully operationalized in measurement (Shadish et al., 2002). According to Campbell and Fiske (1959), construct validity encompasses two complementary aspects: convergent validity where items intended to measure the same construct should correlate highly with each other, and discriminant validity where items measuring different constructs should correlate more weakly with each other than with items measuring the same construct.

Construct validity was assessed through two complementary statistical approaches: Exploratory Factor Analysis conducted during the pilot study on pilot data with 231 respondents to explore the underlying factor structure and assess whether items loaded on their intended constructs, helping identify potential problematic items before main data collection; and Confirmatory Factor Analysis conducted during the main study on main study data with 372 respondents using Structural Equation Modeling to test hypothesized measurement models. CFA provides rigorous tests of construct validity by assessing factor loadings showing relationships between items and latent constructs, fit indices indicating how well the hypothesized structure fits the observed data, Average Variance Extracted for convergent validity, and construct correlations for discriminant validity.

The construct validation sequence addressed a methodological concern raised by examiners regarding the original approach that checked factor loadings during the pilot but did not adequately assess reliability. The revised approach implemented a more appropriate sequence where in the pilot phase, Cronbach's alpha was calculated for internal consistency reliability, preliminary EFA was conducted to explore factor structure, and problematic items were identified based on reliability and factor loading criteria. In the main study phase, CFA was conducted to confirm hypothesized measurement models, convergent validity was assessed through AVE of 0.50 or higher, discriminant validity was assessed through construct correlations less than square root of AVE, and composite reliability was calculated with CRI of 0.70 or higher. This sequence ensures that reliability precedes validity assessment as reliability is necessary but not sufficient for validity, and that exploratory analysis precedes confirmatory analysis following recommended factor analytic practices by Fabrigar, Wegener, MacCallum, and Strahan (1999).

Based on the construct validation process, items were retained if they met several criteria including factor loading of 0.50 or higher as recommended by Hair et al. (2019), theoretical consistency where items loaded on their intended construct, contribution to reliability through adequate item-total correlations, and absence of cross-loadings where items did not load substantially on multiple factors. Detailed results of CFA and construct validity assessment are presented in Chapter 4, as these analyses were conducted on the main study dataset and form a central component of the findings.

3.4.6 Reliability Assessment and Pilot Study Results

Reliability refers to the extent to which a measurement instrument produces consistent and stable results when applied under similar conditions (Carmines & Zeller, 1979). Establishing reliability is a fundamental requirement in quantitative research, as an instrument cannot validly measure a construct unless it does so consistently (Nunnally & Bernstein, 1994). Given that the present study employs multi-item scales to measure latent constructs, internal consistency reliability was considered the most appropriate form of reliability assessment.

Internal consistency reliability was assessed using Cronbach's alpha (α) based on data obtained from a pilot study involving 70 respondents. Cronbach's alpha evaluates the degree to which items within a scale are interrelated and collectively measure the same underlying construct. Alpha values range from 0 to 1, with higher values indicating stronger internal consistency. In line with established methodological guidelines, alpha coefficients of 0.70 or higher were considered indicative of acceptable reliability, values above 0.80 as good, and values above 0.90 as excellent (Nunnally & Bernstein, 1994; Hair et al., 2019).

The pilot study was conducted prior to the main data collection to evaluate the clarity, coherence, and reliability of the revised questionnaire. Based on feedback from pilot participants and preliminary reliability analysis, minor refinements were made to improve item wording and reduce redundancy. The final version of the instrument comprised 128 substantive items, as detailed in Section 3.4.2, including a small adjustment in item distribution across subconstructs, such as the expansion of Absorptive Capacity to six items.

Table 3.4 presents the Cronbach's alpha coefficients derived from the pilot study sample ($N = 70$) for each construct and subconstruct included in the questionnaire. As shown, all scales achieved alpha values equal to or exceeding the minimum threshold of $\alpha = 0.70$, indicating satisfactory internal consistency. Subconstructs with fewer items yielded slightly lower alpha values; however, these values remained within acceptable limits, consistent with the known sensitivity of Cronbach's alpha to scale length.

No items were removed solely on the basis of pilot reliability results. Item retention decisions were guided by a balance between statistical adequacy and theoretical relevance, ensuring that each construct retained sufficient breadth and conceptual coverage. Overall, the pilot study results provided empirical support for the internal consistency of the measurement instrument and confirmed its suitability for use in the main study.

Table 3.4

Summary of Cronbach's Alpha Reliability Estimates from Pilot Study (N = 70)

Variable	Construct / Subconstruct	Items Retained	Cronbach's α
Strategic Leadership Practices	Strategic Orientation	5	0.82
	Strategic Translation	5	0.84
	Strategic Alignment	5	0.81
	Strategic Intervention	4	0.80
	Strategic Competence	5	0.72
	Restlessness	5	0.79
	Adaptive Capacity	5	0.77
	Absorptive Capacity	6	0.78
	Wisdom	9	0.83
Distributed Leadership Practices	Quality Distribution of Support	10	0.81
	Quality Distribution of Supervision	6	0.78
	Cooperation in Leadership Team	7	0.86
	Participative Decision Making	7	0.85
Teachers' Pedagogical Skills	Care and Welfare	6	0.81
	Inclusion	6	0.83
	Socialization	4	0.74
	Academic Support	6	0.80
	Social Education	7	0.78
School Performance	Students' Sufficient Knowledge	5	0.85
	Students' Right Skills	5	0.80
	Students' Positive Attitude	5	0.84
	Students' Appropriate Values	5	0.83

Note. All Cronbach's alpha coefficients meet or exceed the accepted reliability threshold of $\alpha \geq 0.70$, indicating acceptable to good internal consistency based on the pilot study sample.

3.5 DATA COLLECTION PROCEDURE

3.5.1 Ethical Approval and Official Permission

Prior to commencing any data collection activities, formal ethical approval and official permission were obtained through appropriate channels, ensuring compliance with both international research ethics standards and national educational governance requirements. Written permission was secured from the Ministry of Education, Government of Maldives, authorizing the researcher to conduct the study in all secondary schools throughout the country. This permission letter explicitly granted access to school leadership personnel and authorized distribution of research questionnaires to participants. The Ministry of Education's approval serves multiple critical functions including official authorization that legitimizes the research within the national education system, administrative facilitation that encourages school principals and leaders to participate, ethical compliance ensuring research conforms to national policies regarding educational research, and data access authorizing access to school lists and leadership contact information necessary for implementing the sampling procedures described in Section 3.3.

Additionally, the research protocol was reviewed and approved by the International Islamic University Malaysia through its institutional research governance procedures, ensuring compliance with international standards for ethical research conduct. This dual approval process at both national and institutional levels demonstrates the study's commitment to ethical research practices and provides assurance to participants that the research has been vetted and approved by relevant authorities. Copies of the official permission letters from both the Ministry of Education and IIUM are provided in Appendix C, documenting the formal authorizations obtained before data collection commenced.

3.5.2 Ethical Considerations in Research Conduct

Although the initial manuscript did not include a dedicated ethics section, a deficiency noted by examiners during evaluation, the study adhered to comprehensive ethical standards throughout all phases of research conduct, reflecting the ethical principles outlined in international guidelines for educational research. Regarding informed consent, all potential participants received clear information about research purpose and objectives, the voluntary nature of participation, estimated time required for questionnaire completion which was approximately 15-20 minutes, the right to withdraw at any time without consequence, and how data would be used and reported. This information was provided both in the covering letter accompanying the questionnaire and in the introductory section of the electronic questionnaire itself, ensuring participants could make informed decisions about their participation.

Confidentiality and anonymity protections were implemented through several mechanisms. No individual names were recorded in the dataset, with participants identified only through numerical codes. School names were coded numerically in the dataset to prevent identification of specific institutions. Data files were password-protected and accessible only to the researcher, with physical storage of any printed materials in locked cabinets. Reporting of results uses aggregate data only, ensuring no individual or school could be identified in any published findings or presentations. Institutional approval from both the Ministry of Education providing national-level authorization and IIUM providing academic institutional approval demonstrates that the research underwent appropriate review processes.

Data privacy considerations include electronic data being stored securely on password-protected devices with encrypted backups, hard copies from the pilot study questionnaires being stored in locked cabinets with restricted access, data being used solely for research purposes as specified in the permission requests and informed consent materials, and a commitment to destroy identifying information after research completion and publication of findings. The research presented minimal risk to participants as questionnaire content focused on professional practices and perceptions rather than sensitive personal information, no psychological or physical risks to participants were anticipated or encountered, and participation had no impact on participants' professional standing, evaluation, or career advancement.

These ethical provisions align with international standards for educational research as articulated by the American Educational Research Association, American Psychological Association, and National Council on Measurement in Education (2014), and ensure that participant rights and welfare were protected throughout the research process. The ethical framework guiding this research recognizes participants as autonomous professionals whose voluntary participation contributes to knowledge advancement while their rights, privacy, and dignity are respected and protected.

3.5.3 Pilot Study Data Collection Implementation

The pilot study was conducted first, serving as both an instrument validation exercise and a procedural dry-run for the main study, ensuring that all aspects of data collection could be tested and refined before full-scale implementation. Pilot data collection employed printed paper questionnaires to facilitate direct interaction with participants and to enable detailed feedback on instrument quality, which was particularly important for identifying any issues with item clarity, comprehension, or cultural appropriateness.

Twenty-two schools purposively selected for diversity as described in Section 3.3.6 were contacted through multiple channels. Official letters were sent to school principals explaining the research purpose, significance, and requesting participation, emphasizing the valuable role pilot testing plays in ensuring research quality. Follow-up telephone calls confirmed receipt of letters and answered any questions principals or other school leaders might have about the research. Convenient times were coordinated for questionnaire distribution and collection, respecting school schedules and operational demands. Printed questionnaires were distributed to approximately 10 leadership personnel in each pilot school, targeting a total of 220 participants across the 22 schools. Each questionnaire packet included the 128-item questionnaire itself, a covering letter from IIUM explaining the research and providing contact information for the researcher, a copy of the Ministry of Education permission letter demonstrating official approval, detailed instructions for completion emphasizing that there were no right or wrong answers and that honest responses were valuable, and a feedback form

requesting comments on item clarity, comprehensibility, questionnaire design, time required for completion, and any suggestions for improvement.

Questionnaires were collected from schools after two to three weeks, allowing sufficient time for completion without excessive delay that might result in questionnaires being misplaced or forgotten. Follow-up telephone reminders were provided to schools that had not yet returned questionnaires, maintaining gentle persistence to maximise response rates while respecting schools' competing priorities. Out of 220 questionnaires distributed, 189 were returned, yielding a response rate of 85.91%. Five returned questionnaires were excluded due to substantial incompleteness, resulting in 184 usable responses at the initial screening stage. Of these, 70 questionnaires contained fully complete responses across all items and were therefore retained for pilot reliability analysis. The high overall response rate indicates strong cooperation from pilot schools and suggests that the questionnaire was acceptable and feasible for completion, supporting the decision to proceed with main study data collection using the refined instrument.

Feedback from pilot participants was systematically reviewed and incorporated into instrument refinement before main study data collection. Participants' comments focused primarily on item clarity, with a few items identified as potentially ambiguous or difficult to interpret being revised for greater clarity. Suggested revisions to wording were evaluated against the theoretical intent of items and implemented when they improved clarity without compromising construct validity. The time required for completion was noted, with most participants reporting completion times between 12 and 18 minutes, confirming that the questionnaire could be completed within the estimated timeframe. The overall feedback was largely positive, with participants indicating that the topics were relevant and important to their work, the questionnaire was well-organized and easy to navigate, and the electronic format planned for the main study would be convenient and appropriate. This positive feedback provided confidence that the main study data collection could proceed successfully using the refined instrument and planned procedures.

3.5.4 Main Study Data Collection Strategy and Implementation

Following pilot testing, instrument refinement, and reliability confirmation, the main study data collection commenced with a strategic decision to employ electronic questionnaires via Google Forms rather than continuing with printed questionnaires, a decision driven by multiple practical and methodological considerations. The rationale for electronic data collection was compelling given the unique characteristics of the Maldivian context. The Maldives comprises approximately 1,190 islands spread across 26 atolls, with schools located on 187 inhabited islands separated by ocean, making physical distribution of questionnaires to 195 schools require extensive inter-island travel that would substantially increase cost and time while introducing logistical complexities. Electronic distribution enabled simultaneous contact with all schools regardless of their geographical location, whereas physical distribution would require sequential travel, significantly extending the data collection timeline.

Electronic data collection through Google Forms offered substantial advantages for data quality. Required responses eliminated missing data by preventing submission until all items were answered, range validation prevented out-of-range responses by restricting response options to the defined 1-5 scale, automatic data compilation eliminated manual data entry errors that can introduce substantial measurement error, and real-time monitoring of response rates allowed the researcher to track participation and target follow-up efforts effectively. Respondent convenience was enhanced as participants could complete the questionnaire at a time and location convenient to them rather than being constrained by the researcher's physical presence, which was particularly important given the demanding schedules of school leaders. The approach was cost-effective, eliminating printing, distribution, and collection costs while reducing environmental impact. Finally, by 2024, most Maldivian schools have internet access, and leadership personnel regularly use email and digital communication, making electronic surveys both feasible and culturally appropriate for the target population.

The distribution procedure was implemented in three coordinated steps to maximize response rates while maintaining ethical standards and professional courtesy. In Step 1, initial email distribution, electronic questionnaires were distributed via official email addresses to all 195 secondary schools excluding the 22

pilot schools. Emails were addressed to school principals but included instructions to forward the questionnaire link to other leadership personnel including deputy principals, leading teachers, heads of departments, and administrators. Each email included a personalized greeting to the principal acknowledging their leadership role, a brief explanation of the research purpose and significance emphasizing how findings could benefit Maldivian education, a clickable link to the Google Forms questionnaire for easy access, attached PDF copies of the IIUM official permission letter and the Ministry of Education approval letter demonstrating authorization and legitimacy, the researcher's complete contact information including matriculation number, telephone, email, and emergency contact for verification or questions, estimated completion time of 15-20 minutes to set appropriate expectations, a request to complete the questionnaire within 4 weeks providing a reasonable timeframe, and assurance of confidentiality and voluntary participation respecting ethical principles.

In Step 2, recognizing that email response rates can be low and that WhatsApp is widely used in the Maldives for professional communication, questionnaire links were also distributed via WhatsApp to principals and leadership teams. WhatsApp distribution offered several advantages including higher visibility than email as messages are read more promptly on mobile devices, direct personal contact creating a sense of connection with the researcher, ability to answer questions in real-time addressing concerns or confusion immediately, and cultural appropriateness as WhatsApp is a preferred communication platform in Maldivian professional contexts. The combination of email and WhatsApp distribution ensured maximum reach and engagement with potential participants across all schools.

In Step 3, a systematic follow-up protocol was implemented to encourage participation while respecting schools' autonomy and avoiding excessive pressure. In weeks 2-3, email reminders were sent to schools that had not yet responded, thanking those who had participated to acknowledge their contribution and gently encouraging others to participate at their earliest convenience. In week 4, telephone calls were made to principals of non-responding schools with the purposes of confirming receipt of the questionnaire to ensure technical issues had not prevented access, addressing any questions or concerns that might be barriers to participation, encouraging participation while respecting their professional judgment, and offering technical

assistance if needed to overcome any difficulties with accessing or completing the electronic form.

In weeks 5-8, continued weekly reminders via email and WhatsApp maintained persistent but respectful contact, with messages strategically timed to avoid exam periods or other busy times when possible. Beyond week 8, extended deadline accommodations were provided for schools requesting additional time, recognizing that school schedules, examinations, holidays, and unexpected events might affect capacity to participate at specific times. A detailed call log was maintained documenting all telephone contacts, responses received, concerns raised, commitments made, and follow-up actions required. This systematic tracking ensured no school was contacted excessively which could be perceived as harassment or overlooked in follow-up efforts which would miss opportunities for participation.

3.5.5 Timeline, Response Patterns, and Challenges Encountered

The complete data collection process extended over approximately 6-12 months, considerably longer than initially anticipated, reflecting the unique challenges of conducting research in the geographically dispersed Maldivian archipelago. This extended timeline resulted from several contextual factors. Geographical challenges included inter-island communication and coordination across 20 atolls separated by sea taking substantially longer than in geographically compact regions, with travel between islands dependent on boat or seaplane services that operate on limited schedules. Administrative processes in the Maldivian education system move slowly, with multiple levels of approval and coordination required even after initial Ministry authorization. Schools operate on different schedules for examinations, holidays, and academic calendars, affecting their capacity to participate at specific times, with some schools experiencing particularly busy periods that made participation impractical during those windows.

Communication infrastructure, while improving, varies substantially across atolls, with internet connectivity and digital infrastructure less reliable in remote areas occasionally causing delays in communication or difficulties accessing the electronic questionnaire. Workload considerations were significant as school leaders face substantial professional demands, and completing research questionnaires competes with numerous other responsibilities including instructional leadership, administrative management, teacher supervision, student discipline, community engagement, and government reporting requirements. The extended timeline, while challenging from a research management perspective, was necessary to achieve adequate participation and to respect the operational realities of Maldivian schools. Persistent but respectful follow-up, flexibility with deadlines, and genuine engagement with school concerns ultimately produced strong participation rates despite these challenges.

Response patterns demonstrated the success of this patient, respectful approach. At the school level, of 195 schools invited to participate, 185 provided at least one response, yielding a school-level participation rate of 94.9%, which is exceptionally high and indicates strong administrative support from the Ministry of Education, effective engagement and follow-up procedures, relevance and acceptability of the research topic to school leaders, and appropriate questionnaire design and feasibility. At the individual level, total responses received numbered 478 initially, with usable responses after initial screening comprising 471, valid responses after univariate outlier removal totalling 395, and final valid responses after multivariate outlier removal reaching 372. While individual-level response rates varied across schools, the final sample of 372 from 185 schools averaging approximately 2 respondents per school provides broad representation across the national system. Geographical coverage was comprehensive, with all 20 atolls of the Maldives represented in the final dataset, ensuring that findings reflect the full geographical diversity of the nation and enhancing external validity and generalizability.

Ten schools representing 5.1% of invited schools did not provide responses despite repeated follow-up. Principals of these schools indicated various reasons when contacted: requests had been made to leadership personnel but no responses were received despite encouragement, extreme workload pressures precluded participation

during the data collection window, technical difficulties in accessing or completing the electronic questionnaire created barriers that could not be resolved remotely, and staff turnover or absences reduced available personnel during the participation period. This minimal non-response is unlikely to substantially bias findings given the high overall participation rate of 94.9% and the inclusion of schools from all geographical regions and types in the final dataset.

Several challenges were encountered during data collection, requiring adaptive solutions that reflected flexibility and cultural sensitivity. Challenge 1 involved a low initial response rate, where despite official permission and initial enthusiasm, early response rates after the first email distribution were lower than expected. The solution shifted from relying solely on email to incorporating WhatsApp communication, which proved far more effective in the Maldivian context, and personal telephone follow-ups demonstrated the researcher's genuine commitment and addressed specific concerns that schools might have been reluctant to express through written communication.

Challenge 2 concerned technical issues, as some respondents reported difficulty accessing Google Forms or uncertainty about how to complete electronic questionnaires, particularly older leaders less familiar with digital tools. The solution provided telephone technical support walking users through the access and completion process, created simple instructional guides distributed via WhatsApp with screenshots and step-by-step directions, and offered alternative access methods such as direct link versus QR code to accommodate different technological comfort levels and device capabilities.

Challenge 3 involved timing conflicts, where data collection periods sometimes coincided with examination periods, school holidays, or major administrative events such as curriculum reforms or accreditation visits. The solution provided flexible deadlines allowing schools to participate at times convenient to their schedules rather than imposing rigid cut-offs, allowed schools to participate when they had capacity rather than forcing participation during inconvenient periods, and extended the overall data collection period to accommodate variations in school calendars across different atolls and school types.

Challenge 4 addressed language concerns, as although English is the medium of instruction in Maldivian secondary schools, a few respondents expressed concerns about completing an English language questionnaire, particularly those for whom English was a weaker language. The solution assured respondents that questionnaire language was simplified and appropriate for their English proficiency levels, encouraged them to seek clarification on any unclear items through direct contact with the researcher, and emphasized that there were no "wrong answers" and that honest responses reflecting their genuine perceptions were what was valued.

Challenge 5 involved incomplete responses in early submissions, where the first few responses sometimes included substantial missing data or incomplete sections before Google Forms settings were fully optimized. The solution configured Google Forms to require responses to all items before submission, eliminating missing data in subsequent responses, which improved data quality significantly and eliminated the need for missing data imputation procedures. These adaptive solutions demonstrate the importance of flexibility, cultural sensitivity, and persistent engagement in cross-cultural research contexts, with the successful navigation of these challenges contributing to the ultimately high participation rates achieved and the high-quality dataset analyzed in Chapter 4.

3.6 DATA SCREENING AND PREPARATION

3.6.1 Rationale and Importance of Data Screening

Data screening is a critical, though often underemphasized, component of quantitative analysis in educational research (Tabachnick & Fidell, 2013). Even with carefully designed instruments and rigorous data collection procedures, raw datasets typically contain potential issues that, if unaddressed, can compromise the validity of statistical analyses and the accuracy of conclusions drawn from data (Osborne, 2013). According to Tabachnick and Fidell (2013), data screening and cleaning address multiple concerns including accuracy of data entry ensuring that recorded data match original responses, missing data requiring appropriate handling of incomplete responses, outliers necessitating identification and addressing of extreme or unusual

values, and assumptions testing verifying that data meet assumptions of planned statistical procedures such as normality, linearity, homoscedasticity, and absence of multicollinearity.

Failure to adequately screen data can lead to both Type I errors where false positives result in incorrect rejection of true null hypotheses and Type II errors where false negatives result in failure to detect true effects, thereby undermining the scientific integrity of research findings (Osborne & Overbay, 2004). This section details the comprehensive data screening and preparation procedures implemented to ensure high data quality prior to the substantive analyses presented in Chapter 4, with each screening decision documented and justified to maintain transparency and enable readers to assess the appropriateness of the procedures employed. The systematic approach to data screening described here provides confidence that the analyses in Chapter 4 are based on high-quality data that meet the assumptions of the statistical techniques employed.

3.6.2 Data Accuracy Verification Procedures

To ensure accuracy of the transferred and recorded data, several verification procedures were implemented systematically. Using the SPSS FREQUENCIES function, frequency distributions were generated for all variables to identify out-of-range values such as values outside the 1-5 Likert scale range, detect impossible or implausible values, and examine patterns of responses for logical consistency. Univariate descriptive statistics including means, standard deviations, minimums, and maximums were calculated for all continuous variables to verify that values fall within expected ranges, identify variables with restricted variance that might indicate data quality issues, and assess preliminary distributional properties that would be examined more thoroughly in subsequent screening steps.

Data files were visually inspected in both SPSS and original Google Sheets format to identify any obvious anomalies such as systematic patterns of identical responses, check for systematic patterns suggesting data entry or collection errors, and verify that variable labels and value labels were correctly assigned and meaningful.

Cross-tabulations and logical checks examined consistency between related variables, for example verifying that years in current position should not exceed total years of service, identified patterns suggesting response sets such as all items answered identically which might indicate careless or invalid responding, and assessed demographic distributions for plausibility comparing sample characteristics against known population parameters where available.

No substantial data accuracy problems were identified during these verification procedures, attributing primarily to the electronic data collection method which eliminated manual data entry errors. The few minor issues identified, primarily cases flagged for potential outlier status, were addressed through the subsequent rigorous screening procedures detailed in Sections 3.6.3 and 3.6.4. The verification process confirmed that the dataset was of high quality and ready for more detailed screening procedures, providing a solid foundation for the analyses conducted in Chapter 4.

3.6.3 Missing Data Assessment and Treatment

Missing data can occur through various mechanisms, each with different implications for analysis (Little & Rubin, 2019). Three types of missing data are distinguished in the methodological literature: Missing Completely at Random (MCAR) where the probability that data are missing is unrelated to any variable in the dataset whether measured or unmeasured representing the least problematic type of missingness because it does not introduce bias; Missing at Random (MAR) where the probability that data are missing is related to other measured variables but not to the missing value itself, being more problematic than MCAR but addressable through appropriate imputation methods; and Missing Not at Random (MNAR) where the probability that data are missing is related to the missing value itself even after controlling for other variables, being most problematic because it can introduce substantial bias that is difficult to correct.

In this study, missing data were minimal due to the electronic questionnaire design, as Google Forms was configured to require responses to all substantive items before submission, effectively eliminating missing data for most variables. However, some missing data occurred in demographic variables where a few respondents skipped optional demographic questions particularly workplace name which was explicitly marked optional, and in early responses before required response settings were fully implemented, a few early responses contained minor missing data. Missing data patterns were examined following Tabachnick and Fidell's (2013) recommendation to determine the percentage of missing data which was less than 5% for all variables, well below the threshold where special treatment is required, the pattern of missingness assessing whether missing data were scattered randomly or concentrated in specific variables or cases, and the mechanism of missingness determining whether missingness related to other variables suggesting MAR or appeared random suggesting MCAR.

Little's MCAR test was conducted in SPSS to statistically assess whether data were missing completely at random. Results indicated that missingness patterns were consistent with MCAR as the chi-square test yielded p greater than .05, suggesting that the minimal missing data did not introduce systematic bias. Given the minimal amount of missing data at less than 5% and evidence suggesting MCAR, a listwise deletion strategy also called case wise deletion was employed for cases with missing data on substantive variables. This approach removes cases with any missing values from analyses.

The rationale for listwise deletion included several considerations. First, simplicity, as the approach is straightforward and transparent. Second, under MCAR conditions, listwise deletion produces unbiased parameter estimates though less efficient than imputation methods. Third, the conservative nature of the approach eliminates uncertainty about imputed values. Fourth, adequate sample size remained after deletion, as with 471 usable responses initially and minimal missing data, sample size remained well above the required minimum of 304. Fifth, standard practice recognizes listwise deletion as widely accepted for missing data rates below 5% (Tabachnick & Fidell, 2013). Alternative approaches such as multiple imputation or expectation-maximization were considered unnecessary given the minimal missing

data and MCAR pattern, with the use of listwise deletion representing a conservative, transparent approach appropriate for the data characteristics observed.

3.6.4 Outlier Detection and Removal Procedures

Outliers are cases with values substantially different from other cases in the dataset (Aguinis, Gottfredson, & Joo, 2013). Outliers can arise through measurement error from incorrect data entry or recording, data processing error from mistakes during data transfer or coding, sampling error from inclusion of cases outside the target population, or legitimate extreme values representing true but unusual responses from the population. The presence of outliers can substantially distort statistical results, particularly affecting means and standard deviations which are sensitive to extreme values, correlation coefficients which can be inflated or deflated by outliers, regression coefficients which can be biased by influential cases, assumptions testing where outliers can create appearance of non-normality, and both Type I and Type II error rates (Osborne & Overbay, 2004). Two types of outliers must be addressed in multivariate research: univariate outliers representing cases with extreme values on a single variable, and multivariate outliers representing cases with unusual combinations of values across multiple variables even if individual values are not extreme.

Univariate outliers were identified using standardized scores, also called z-scores, which express each value in terms of standard deviation units from the mean using the formula $z = \frac{X - \mu}{\sigma}$, where X represents the observed score, μ represents the mean, and σ represents the standard deviation. Following Tabachnick and Fidell (2013), cases with absolute value of z greater than 3.29 were flagged as potential univariate outliers. This criterion corresponds to a probability of p less than .001, indicating that such extreme values would occur by chance in fewer than 1 in 1,000 cases in a normal distribution. The z greater than 3.29 criterion represents a conservative threshold that identifies truly extreme values while avoiding over-identification of merely unusual but legitimate responses, balancing Type I error protection by avoiding removal of legitimate cases against Type II error protection by detecting cases that could distort analyses.

The procedure for univariate outlier detection involved several systematic steps. Z-scores were calculated for all continuous variables using SPSS DESCRIPTIVES with the SAVE option to create standardized score variables. Cases with any variable z-score exceeding the absolute value of 3.29 were flagged for review. Flagged cases were examined individually to determine the likely source of the extreme value, distinguishing data errors from legitimate extreme responses. A decision was made for each flagged case regarding retention or removal based on the review findings. In total, 76 cases were identified as univariate outliers based on the z greater than 3.29 criterion. Review of these cases suggested they represented either response sets where all items were answered identically producing extreme pattern recognition, measurement error reflecting implausible combinations of responses, or extreme acquiescence or disacquiescence bias. Given the inability to verify the accuracy of these extreme responses and their potential to distort analyses, the 76 univariate outliers were removed, reducing the sample from 471 to 395 cases.

After removing univariate outliers, multivariate outliers were assessed using Mahalanobis distance (D^2). Mahalanobis distance measures how far each case is from the centroid representing the multidimensional mean of all other cases, taking into account the correlational structure among variables (Mahalanobis, 1936). Unlike Euclidean distance which treats all variables as independent, Mahalanobis distance accounts for covariances among variables, making it appropriate for detecting unusual combinations of correlated variables (Tabachnick & Fidell, 2013). Conceptually, imagine a scatter plot of two correlated variables where cases that fall far from the central cluster, particularly in directions inconsistent with the correlation, have large Mahalanobis distances. In multidimensional space with many variables, D^2 identifies cases whose pattern of responses across all variables is atypical, even if individual values are not extreme.

Mahalanobis distance follows a chi-square distribution with degrees of freedom equal to the number of variables, allowing statistical testing where D^2 is distributed as chi-square with df equals k , where k equals the number of variables. Cases with D^2 greater than the chi-square critical value at p less than .001 were identified as potential multivariate outliers. The critical value depends on the number of variables but typically ranges from approximately 20 to 25 for datasets with 4 to 6

primary constructs. Following recommendations by Hair et al. (2019), a conservative approach was taken involving calculating D^2 for all cases, identifying cases exceeding the chi-square critical value at p less than .001, reviewing identified cases for patterns suggesting measurement problems, and removing cases confirmed as problematic.

Mahalanobis distance was calculated using the SPSS REGRESSION procedure through a dummy regression where a regression was run with a constant as the dependent variable and all study variables as predictors, saved Mahalanobis distances were generated for each case, the chi-square critical value was determined at p less than .001 for appropriate degrees of freedom, cases exceeding the critical value were flagged, flagged cases were examined for patterns, and confirmed multivariate outliers were deleted. In total, 23 additional cases were identified as multivariate outliers. These cases exhibited unusual combinations of responses across variables that, while not extreme on individual variables, represented implausible patterns when considered jointly. For example, some cases reported very high strategic leadership but very low distributed leadership combined with very low pedagogical skills, a theoretically and practically implausible pattern. The 23 multivariate outliers were removed, yielding a final sample of 372 cases by subtracting 23 from 395.

The decision to remove outliers requires careful justification, as legitimate extreme cases should not be removed merely because they are unusual (Aguinis et al., 2013). This study's outlier removal is justified by several considerations. First, statistical rationale recognizes that both univariate and multivariate outliers can substantially distort correlation and regression analyses, leading to misleading conclusions (Osborne & Overbay, 2004). Second, sample size adequacy is maintained as after removing 99 outliers comprising 76 univariates plus 23 multivariate, the remaining sample of 372 still exceeded minimum requirements of 304 and provided adequate power for analyses. Third, data quality concerns emerged from review of flagged cases, suggesting many represented measurement error or response sets rather than legitimate extreme values. Fourth, conservative criteria using p less than .001 thresholds ensured only truly extreme cases were removed. Fifth, theoretical implausibility was evident as many flagged cases exhibited theoretically implausible response patterns. Sixth, transparency is maintained as all screening decisions are documented and reported, enabling readers to assess appropriateness. Finally, standard

practice supports outlier removal following established criteria as standard in SEM and multivariate research (Kline, 2016).

3.6.5 Assessment of Statistical Assumptions

Many statistical procedures including SEM assume that variables are approximately normally distributed. While SEM is robust to moderate violations of normality, severe non-normality can affect parameter estimates, standard errors, and fit indices (Kline, 2016). Normality was assessed through multiple complementary approaches. Skewness and kurtosis statistics were examined, with skewness measuring distributional asymmetry and kurtosis measuring tail heaviness. Following West, Finch, and Curran (1995), absolute values were evaluated against criteria where absolute value of skewness less than 2 is acceptable, absolute value of kurtosis less than 7 is acceptable, with more stringent criteria being absolute value of skewness less than 1 and absolute value of kurtosis less than 3 for ideal normality.

Formal statistical tests of normality including Kolmogorov-Smirnov and Shapiro-Wilk tests were conducted, with non-significant results where p greater than .05 indicating no significant departure from normality. Visual methods included histograms with superimposed normal curves for visual assessment of distributional shape, Q-Q plots or quantile-quantile plots where cases falling along the diagonal line suggest normality, and boxplots to identify distributional symmetry and presence of outliers. After outlier removal, most variables demonstrated acceptable distributional properties with skewness values ranging from -0.89 to 1.12, all within acceptable limits, and kurtosis values ranging from -0.45 to 2.34, all within acceptable limits. Visual inspection confirmed approximate normality for most variables. Some minor deviations from perfect normality were observed, which is expected in real-world data, but all deviations fell within ranges considered acceptable for SEM analysis with Maximum Likelihood estimation (Kline, 2016).

Linearity assumes linear relationships among variables and was assessed through scatterplots of relationships among key variables and residual plots from preliminary regression analyses, with visual inspection confirming predominantly linear relationships and no evidence of substantial curvilinearity requiring transformation. Homoscedasticity requires that variance in residuals remains constant across levels of predictor variables and was assessed through residual plots showing residuals versus predicted values and Levene's test for equality of variances across groups, with no substantial violations of homoscedasticity identified.

Multicollinearity occurs when predictor variables are highly correlated with each other, which can create estimation problems in regression and SEM (Kline, 2016). Multicollinearity was assessed through Variance Inflation Factors where VIF less than 5 indicates no concern, VIF between 5 and 10 indicates moderate concern, and VIF greater than 10 indicates serious concern (Hair et al., 2019), through Tolerance where tolerance greater than 0.20 is acceptable and tolerance less than 0.20 is problematic, and through bivariate correlations where r greater than 0.90 suggests potential multicollinearity. Results indicated no serious multicollinearity concerns as all VIF values were less than 3.5, all tolerance values exceeded 0.30, and no bivariate correlations exceeded r equals 0.85.

The comprehensive assessment of statistical assumptions provides confidence that the data meet the requirements for the analytical techniques employed in Chapter 4. The systematic screening process documented in this section ensures that the analyses are based on high-quality data with appropriate distributional properties, enhancing the validity and reliability of the findings and conclusions drawn from the statistical analyses.

3.7 DATA ANALYSIS AND STATISTICAL TECHNIQUES

3.7.1 Overview of the Analytical Framework

This study employed a comprehensive analytical strategy integrating descriptive statistics and advanced multivariate techniques, specifically Structural Equation Modeling, to address the research questions and test the hypotheses formulated in Chapters 1 and 2. The analytical approach was carefully aligned with the research questions and hypotheses, ensuring that statistical methods appropriately addressed each research objective while maintaining methodological rigor and producing findings that advance both theoretical understanding and practical knowledge relevant to Maldivian education. The analysis proceeded in two complementary phases: a descriptive phase addressing Research Questions 1 through 4 regarding levels of variables, providing foundational understanding of current conditions in Maldivian secondary schools, and an inferential phase addressing Research Questions 5 through 14 regarding measurement models and structural relationships, testing the validity and reliability of measurement instruments and examining hypothesized relationships among constructs.

This two-phase approach reflects standard practice in SEM research where measurement models must be validated before structural relationships can be meaningfully interpreted (Kline, 2016; Anderson & Gerbing, 1988). The integration of descriptive and inferential analyses provides a comprehensive understanding of both current conditions and the relationships among variables in Maldivian secondary schools, with the results of these analyses presented systematically in Chapter 4 following the sequence of research questions.

3.7.2 Descriptive Analysis for Research Questions 1-4

The first four research questions examined the levels of strategic leadership practices, distributed leadership, teachers' pedagogical skills, and school performance in Maldivian secondary schools from the perspectives of school leaders. These descriptive questions were addressed using fundamental descriptive statistics that characterize the central tendency and variability of responses. Measures of central

tendency focused on means calculated for each construct and subscale to indicate average levels across the sample, with interpretation using the 5-point Likert scale where 1.00 to 1.80 indicates very low, 1.81 to 2.60 indicates low, 2.61 to 3.40 indicates moderate, 3.41 to 4.20 indicates high, and 4.21 to 5.00 indicates very high levels.

Measures of variability employed standard deviations calculated to indicate variability or consistency in responses, with lower standard deviation suggesting greater consensus among respondents and higher standard deviation suggesting more variation in perceptions across the sample. Frequency distributions presented percentages showing distribution of responses across Likert scale categories, serving the purpose of understanding response patterns and identifying modal responses or most common response categories. These descriptive findings provide essential baseline information about current conditions in Maldivian schools, addressing a significant knowledge gap identified in Chapter 2 where limited empirical research has examined these variables in the Maldivian context. The findings are practically significant for policymakers and administrators seeking to understand the current state of leadership practices, pedagogical capabilities, and school performance as a foundation for evidence-based decision-making and policy development. The detailed results of these descriptive analyses are presented in Chapter 4, Sections 4.2 through 4.5.

3.7.3 Structural Equation Modeling: Rationale and Appropriateness

For Research Questions 5 through 14, Structural Equation Modeling was selected as the primary analytical technique, a decision justified by SEM's unique capabilities and appropriateness for the study's research questions and theoretical framework. SEM is a comprehensive statistical framework that integrates aspects of factor analysis, path analysis, and regression analysis (Kline, 2016; Byrne, 2016), enabling researchers to examine complex relationships among multiple variables simultaneously while accounting for measurement error and testing both measurement quality and structural relationships within a unified analytical framework.

SEM offers several critical advantages that made it the optimal choice for this research. First, simultaneous analysis of multiple relationships enables examination of all hypothesized pathways at once rather than testing one relationship at a time, providing a holistic understanding of the complex theoretical model proposed in Chapter 2 (Hair et al., 2019). Second, latent variable measurement distinguishes between observed indicators such as questionnaire items and latent constructs such as theoretical concepts, allowing explicit modeling of measurement error, more accurate estimation of relationships among theoretical constructs, and assessment of construct validity through measurement models. Third, the dual structure of measurement and structural models enables SEM to test relationships between indicators and latent constructs through Confirmatory Factor Analysis assessing construct validity and reliability, and test relationships among latent constructs through structural modeling addressing substantive research hypotheses (Kline, 2016).

Fourth, mediation assessment is facilitated as SEM provides rigorous testing of indirect effects examining whether pedagogical skills mediate relationships between leadership practices and school performance, which is central to this study's theoretical framework (Baron & Kenny, 1986; MacKinnon, Lockwood, & Williams, 2004). Fifth, model fit evaluation provides multiple indices assessing overall model fit, enabling researchers to evaluate how well theoretical models match observed data and to compare alternative models systematically (Hu & Bentler, 1999). Finally, flexibility accommodates various model types including recursive models, non-recursive models with feedback loops, and longitudinal models, while enabling testing of alternative specifications to refine theoretical understanding.

SEM is particularly appropriate for this research for several specific reasons. The complex theoretical model examines relationships among four multi-dimensional constructs with 22 subscales and 128 items, requiring simultaneous analysis of multiple pathways that would be impractical and statistically problematic using traditional regression approaches. All constructs are latent, meaning they are unobserved theoretical concepts measured through multiple indicators, and SEM's explicit modeling of latent variables provides more accurate estimates than approaches treating observed composite scores as if they were perfectly measured. Measurement validation is a research objective as Research Questions 5 through 8 specifically

address construct validity and reliability, which SEM addresses directly through confirmatory factor analysis integrated within the analytical framework.

Mediation hypotheses are central to the theoretical framework, with Research Questions 12 and 13 proposing that pedagogical skills mediate relationships between leadership practices and school performance, and SEM rigorously tests such mediation through simultaneous estimation of direct and indirect effects. Theory testing is the primary goal as the study tests a theoretically-derived model rather than exploring relationships, and SEM is designed specifically for confirmatory theory testing rather than exploratory analysis. Sample size adequacy is met as with 372 cases, the sample substantially exceeds minimum recommendations for SEM which typically range from 200 to 400 depending on model complexity (Kline, 2016), providing adequate power for stable parameter estimation and reliable fit index calculation.

While SEM offers substantial advantages, certain limitations must be acknowledged to ensure appropriate interpretation of findings. Regarding causality, despite language of "effects" commonly used in SEM, this study uses cross-sectional data collected at a single point in time, meaning SEM can establish patterns of association consistent with hypothesized causal relationships but cannot definitively establish causation which requires temporal precedence, experimental manipulation, or longitudinal data (Pearl, 2000). Model specification requires researchers to specify models a priori based on theory, and misspecified models where important paths are omitted or incorrect paths are included can lead to incorrect conclusions about relationships. Complexity can obscure problems as SEM's sophistication can sometimes obscure fundamental issues with measurement or model specification if not carefully implemented and critically evaluated. Statistical assumptions include multivariate normality though SEM is robust to moderate violations, adequate sample size for stable estimation, and correct model specification, all of which were addressed through the data screening procedures described in Section 3.6.

These limitations were addressed through several strategies. Rigorous theoretical grounding ensured the model was specified based on extensive literature review and clear theoretical rationale presented in Chapter 2. Comprehensive data screening as detailed in Section 3.6 verified that data meet assumptions and are of high quality. Multiple fit indices are used as model evaluation employs numerous fit indices rather than relying on a single criterion, providing convergent evidence of model quality. Appropriate caveats are included in interpretation as findings are interpreted with appropriate acknowledgment of the cross-sectional nature of data and limitations regarding causal inference.

3.7.4 Confirmatory Factor Analysis for Measurement Model Validation

Research Questions 5 through 8 examine the validity and reliability of measurement models for each of the four primary constructs: Strategic Leadership Practices, Distributed Leadership Practices, Teachers' Pedagogical Skills, and School Performance. These questions were addressed using Confirmatory Factor Analysis, which tests whether hypothesized relationships between observed indicators and latent constructs fit the observed data (Brown, 2015). CFA provides rigorous assessment of construct validity by examining whether items load on their intended constructs with adequate magnitude, whether the overall pattern of loadings matches theoretical expectations, and whether the hypothesized measurement structure fits the observed covariance structure among items.

The CFA procedure involves several systematic steps. Model specification requires that based on theory and pilot study results, hypothesized factor structures are specified for each construct, with Strategic Leadership specified as 9 first-order factors representing subscales and possibly a second-order factor representing overall strategic leadership, Distributed Leadership specified as 4 first-order factors, Teachers' Pedagogical Skills specified as 5 first-order factors, and School Performance specified as 4 first-order factors. Model identification ensures each model has sufficient information to solve for unknown parameters, following Kline's (2016) guidelines that each factor must have at least 3 indicators for identification, one loading per factor is fixed to 1.0 for scaling purposes establishing the metric of the latent variable, and

degrees of freedom must be positive indicating the model is over-identified and therefore testable.

Model estimation employs Maximum Likelihood estimation, which is appropriate when variables are continuous or quasi-continuous such as Likert scales, sample size is adequate with n greater than 200, and distributional properties are acceptable with ML tolerating moderate deviations from normality. Model evaluation uses multiple criteria to assess model fit as detailed in Section 3.7.5. If necessary, model modification considers theoretically justified modifications if initial models demonstrate poor fit, based on modification indices suggesting which parameters if freed would improve fit, standardized residuals indicating specific areas of misfit, and theoretical justification ensuring any modifications make theoretical sense rather than being purely data-driven.

For each measurement model, several validity and reliability indices are calculated to provide comprehensive evidence of measurement quality. Factor loadings represent standardized regression weights linking items to latent constructs, with standardized loadings of 0.50 or higher considered acceptable, loadings of 0.70 or higher considered good (Hair et al., 2019), and significance assessed through Critical Ratios where CR greater than 1.96 indicates p less than .05. Average Variance Extracted represents the average proportion of variance in indicators explained by the latent construct, calculated as AVE equals the sum of squared standardized loadings divided by the number of indicators, with AVE of 0.50 or higher indicating acceptable convergent validity (Fornell & Larcker, 1981) and interpretation that more than 50% of variance in indicators is explained by the construct rather than measurement error.

Composite Reliability represents internal consistency reliability accounting for actual factor loadings rather than assuming equal weights as Cronbach's alpha does, calculated as CR equals the square of the sum of standardized loadings divided by the square of the sum of standardized loadings plus the sum of one minus squared loadings, with CR of 0.70 or higher indicating acceptable reliability, CR of 0.80 or higher indicating good reliability (Hair et al., 2019), and CR considered superior to Cronbach's alpha for SEM because it uses actual factor loadings from the measurement model. Discriminant Validity is assessed through the Fornell-Larcker

criterion where the square root of AVE for each construct should exceed correlations between that construct and other constructs, indicating constructs are empirically distinct and measure different phenomena.

These indices provide comprehensive evidence regarding construct validity and reliability, addressing concerns raised during examination about the need for thorough validation and moving beyond sole reliance on Cronbach's alpha. The detailed results of CFA for all four measurement models are presented in Chapter 4, Sections 4.6 through 4.9, with summary tables providing factor loadings, AVE, CR, and fit indices for each model.

3.7.5 Goodness-of-Fit Indices and Interpretation Criteria

Model fit in Structural Equation Modelling (SEM) was evaluated using a combination of goodness-of-fit indices, rather than reliance on a single statistic, as no single index adequately captures all aspects of model quality and different indices are sensitive to different dimensions of fit (Hu & Bentler, 1999; Kline, 2016). Consistent with contemporary best practice and the analytical procedures applied in Chapter Four, this study employed a set of absolute, incremental, and parsimony-adjusted fit indices to provide convergent evidence regarding whether the hypothesised measurement and structural models adequately represent the observed data.

The chi-square (χ^2) statistic assesses the discrepancy between the observed covariance matrix and the model-implied covariance matrix and tests the null hypothesis of perfect model fit. A non-significant chi-square ($p > .05$) indicates good fit, whereas a significant value ($p < .05$) suggests model–data misfit. However, chi-square is highly sensitive to sample size and is almost invariably significant in large samples (Bentler & Bonett, 1980). Given the relatively large sample size in this study ($N = 372$), the chi-square statistic was reported for transparency only and was not relied upon as the sole indicator of model fit.

To provide a more practical assessment of fit while accounting for model complexity, the relative chi-square (χ^2/df) was examined, with values of 3.0 or below indicating acceptable model fit (Kline, 2016). Incremental model fit was primarily assessed using the Comparative Fit Index (CFI) (Bentler, 1990) and the Tucker–Lewis Index (TLI). For both indices, values of 0.90 or higher were interpreted as indicating acceptable fit, while values of 0.95 or higher indicated good to excellent fit (Hu & Bentler, 1999).

Model parsimony and approximation error were evaluated using the Root Mean Square Error of Approximation (RMSEA) (Steiger & Lind, 1980). RMSEA values of 0.08 or below indicate acceptable fit, values of 0.06 or below indicate good fit, and values above 0.10 indicate poor fit (Browne & Cudeck, 1993). RMSEA was interpreted alongside its confidence interval to assess the precision of model fit estimates. In addition, the Standardised Root Mean Square Residual (SRMR) was used to assess the average standardised discrepancy between observed and model-implied correlations, with values of 0.08 or below indicating acceptable fit and values of 0.05 or below indicating good fit (Hu & Bentler, 1999) (see Table 3.5).

In line with recommended SEM practice (Hu & Bentler, 1999; Kline, 2016), model fit decisions in this study were based on convergence across multiple indices, rather than strict adherence to any single threshold. Acceptable overall model fit was concluded when at least four key indices met their respective recommended criteria, with particular emphasis placed on CFI, TLI, RMSEA, and SRMR. These criteria were applied consistently across all measurement and structural models reported in Chapter Four.

Table 3.5*Goodness-of-Fit Indices and Decision Criteria Applied in this Study*

Fit Index	Acceptable Fit Criterion	Good / Excellent Fit Criterion
χ^2 (Chi-square)	$p > .05$ (interpreted cautiously)	—
χ^2/df (CMIN/df)	≤ 3.00	≤ 2.00
CFI	≥ 0.90	≥ 0.95
TLI	≥ 0.90	≥ 0.95
RMSEA	≤ 0.08	≤ 0.06
SRMR	≤ 0.08	≤ 0.05
AIC / BIC	Lower values indicate better fit	—

Note. Model fit was evaluated using a combination of indices, with conclusions drawn based on overall convergence rather than any single statistic.

3.7.6 Structural Model Testing and Mediation Analysis

After establishing valid and reliable measurement models through CFA addressing Research Questions 5 through 8, structural models testing hypothesized relationships among latent constructs were evaluated to address Research Questions 9 through 14. Direct effects represent relationships between constructs without considering intermediate variables, with three direct effect hypotheses tested: Hypothesis 5 proposing Strategic Leadership directly influences School Performance, Hypothesis 6 proposing Distributed Leadership directly influences School Performance, and Hypothesis 7 proposing Teachers' Pedagogical Skills directly influences School Performance.

Assessment of direct effects examines standardized path coefficients indicating magnitude and direction of relationships where beta represents the expected change in the dependent variable for a one-standard-deviation change in the independent variable, statistical significance through Critical Ratio where CR greater than 1.96 indicates p less than .05, and practical significance where beta of 0.10 or higher is considered minimally meaningful (Cohen, 1988). Effect size interpretation follows

conventions where absolute value of beta less than 0.10 is negligible, 0.10 to 0.30 is small, 0.30 to 0.50 is medium, and greater than 0.50 is large.

Mediation occurs when an independent variable influences a dependent variable through an intermediary mediating variable (Baron & Kenny, 1986), with two mediation hypotheses tested: Hypothesis 8 proposing Strategic Leadership influences School Performance through Teachers' Pedagogical Skills, and Hypothesis 9 proposing Distributed Leadership influences School Performance through Teachers' Pedagogical Skills. Two types of mediation are distinguished: full mediation where the independent variable affects the dependent variable only through the mediator such that the direct effect becomes non-significant when the mediator is included, and partial mediation where the independent variable affects the dependent variable both directly and through the mediator such that both direct and indirect effects are significant.

The assessment procedure for mediation follows Baron and Kenny (1986) and contemporary approaches by Hayes (2018) through several steps. First, the direct effect designated as path c is tested showing the relationship from IV to DV without the mediator. Second, path a is tested showing the relationship from IV to Mediator. Third, path b is tested showing the relationship from Mediator to DV while controlling for IV. Fourth, the indirect effect calculated as the product of path a times path b is tested. Finally, direct and indirect effects are compared, where the indirect effect representing mediation equals a times b , the total effect equals c and also equals c prime plus a times b , and c prime represents the direct effect controlling for the mediator.

Indirect effects are tested using bias-corrected bootstrap confidence intervals with 5,000 bootstrap samples, which provide more accurate significance tests than the traditional Sobel test (MacKinnon et al., 2004). If the bootstrap 95% confidence interval does not include zero, this indicates significant mediation. Standardized indirect effects are reported with their confidence intervals to provide clear evidence regarding the presence and magnitude of mediation.

Research Question 14 examines the overall hypothesized structural model incorporating all variables and pathways simultaneously. This comprehensive full structural model includes both measurement and structural components, tests all direct and indirect effects simultaneously providing the most complete test of the theoretical framework, and assesses overall model fit using the criteria detailed in Section 3.7.5. If the initial hypothesized model demonstrates poor fit, alternative models are considered through comparison procedures where nested models are compared using chi-square difference tests assessing whether freeing or constraining parameters significantly improves fit, non-nested models are compared using information criteria where lower AIC Akaike Information Criterion and BIC Bayesian Information Criterion values indicate better fit, and theoretical justification is required for any model modifications ensuring changes are theoretically defensible rather than purely empirical.

3.7.7 Software and Technical Specifications

All statistical analyses were conducted using industry-standard software packages recognized for their capabilities in educational research. IBM SPSS Statistics Version 26 or later was used for descriptive statistics including means, standard deviations, and frequencies, data screening procedures including outlier detection and assumptions testing, and reliability analysis including Cronbach's alpha calculations during the pilot phase. IBM AMOS Version 26 or later was used for Confirmatory Factor Analysis testing measurement models, Structural Equation Modeling testing structural relationships and mediation effects, and calculation of fit indices, AVE, and composite reliability.

Maximum Likelihood (ML) estimation was employed throughout all SEM analyses, being the most common and well-understood estimation method in SEM. ML estimation is appropriate when variables are continuous or treated as continuous which includes Likert scale data treated as interval, sample size is adequate with recommendations typically ranging from 200 to 400 for complex models and this study's sample of 372 falling comfortably within this range, and distributional assumptions are reasonably met as ML is robust to moderate violations of multivariate

normality which was confirmed through the assumption testing described in Section 3.6.5. Although missing data were minimal in this study due to the required-response feature of Google Forms, Full Information Maximum Likelihood was available in AMOS if needed to handle any missing data through direct estimation rather than deletion or imputation.

This comprehensive analytical framework provides the methodological foundation for the results presented in Chapter 4, where each research question is addressed systematically using the techniques described in this section. The integration of descriptive and inferential approaches, combined with rigorous attention to measurement quality and model fit, ensures that the findings are both methodologically sound and substantively meaningful for advancing understanding of educational leadership and school performance in the Maldivian context.

3.8 CHAPTER SUMMARY

This chapter has provided a comprehensive and detailed account of the research methodology employed in this study, establishing the scientific foundation for the findings and conclusions presented in subsequent chapters. The research adopted a quantitative, non-experimental, descriptive-correlational, cross-sectional survey design that is appropriate for examining relationships among leadership practices, pedagogical skills, and school performance in Maldivian secondary schools. This design was selected based on careful consideration of the research questions, the nature of the variables under investigation, the characteristics of the target population, and the practical constraints of conducting research in a geographically dispersed island nation.

The target population comprised 1,641 leadership personnel across 217 secondary schools distributed throughout the 20 atolls of the Maldives, with the unit of analysis being individual school leaders rather than schools as organizational entities. Through a carefully designed two-phase sampling approach—utilizing purposive sampling for the pilot study involving 231 participants from 22 schools to maximize diversity for instrument testing, and stratified random sampling for the main

study to ensure representative selection across geographical and institutional strata—the research achieved exceptional participation with 94.9% of invited schools providing responses. After rigorous data screening procedures including accuracy verification, missing data assessment, and both univariate and multivariate outlier detection, a final sample of 372 valid responses from 185 schools across all 20 atolls was retained for analysis. This sample substantially exceeds the minimum requirement of 304 recommended by Krejcie and Morgan (1970) and provides adequate statistical power for the Structural Equation Modeling analyses conducted.

A comprehensive 128-item questionnaire was developed through systematic adaptation of validated instruments from prior research and official Maldivian educational frameworks, ensuring both theoretical grounding and contextual relevance. The instrument underwent rigorous multi-stage validation incorporating face validity assessment through expert review by faculty from International Islamic University Malaysia and a curriculum development officer from the Maldives Ministry of Education, combined with pilot participant feedback, content validity evaluation through structured expert review using Lawshe's Content Validity Ratio approach ensuring comprehensive construct coverage, and construct validity testing through Exploratory Factor Analysis during the pilot phase and Confirmatory Factor Analysis during the main study. Internal consistency reliability was firmly established through Cronbach's alpha calculations during the pilot study, with values ranging from 0.651 to 0.940 across all constructs and subscales, indicating acceptable to excellent reliability. A critical revision involved unifying all response scales to employ a single 5-point Likert format ranging from Strongly Disagree to Strongly Agree, enhancing measurement consistency and addressing examiner concerns about scale standardization.

Data collection proceeded through printed questionnaires for the pilot phase enabling detailed feedback, and electronic Google Forms for the main study enabling efficient nationwide distribution across the geographically dispersed archipelago. The data collection process achieved a remarkable 94.9% school-level participation rate despite the substantial geographical and logistical challenges inherent in reaching schools across 20 atolls separated by ocean. The extended data collection period of 6 to 12 months reflected the practical realities of conducting research in this unique

context, including inter-island communication delays, varying school schedules, administrative processes, and workload considerations. Persistent yet respectful follow-up through multiple channels including official emails, WhatsApp communications, and telephone calls, combined with flexibility in accommodating schools' scheduling needs, ultimately yielded comprehensive national representation and high-quality data suitable for rigorous analysis.

Comprehensive data screening procedures ensured exceptional data quality prior to analysis, including accuracy verification through frequency distributions and descriptive statistics confirming data integrity, missing data assessment determining that less than 5% of data were missing with patterns consistent with Missing Completely at Random and treatment through conservative listwise deletion, univariate outlier detection using standardized score criteria of z greater than 3.29 identifying and removing 76 cases, multivariate outlier detection using Mahalanobis distance identifying and removing 23 additional cases with theoretically implausible response patterns, and statistical assumptions testing confirming that data meet requirements for normality, linearity, homoscedasticity, and absence of multicollinearity necessary for the planned analyses. The systematic screening process yielded a clean dataset of 372 cases with appropriate distributional properties and high quality suitable for advanced statistical analyses.

The analytical approach integrated descriptive statistics for addressing Research Questions 1 through 4 regarding levels of variables providing foundational understanding of current conditions in Maldivian secondary schools, and Structural Equation Modeling for addressing Research Questions 5 through 14 regarding measurement model validation and hypothesis testing. SEM was selected as the primary analytical technique due to its capability to simultaneously test measurement quality and structural relationships, explicitly model latent variables while accounting for measurement error, rigorously assess mediation effects central to the theoretical framework, provide comprehensive model fit evaluation through multiple indices, and test complex theoretical models involving multiple constructs and pathways. Confirmatory Factor Analysis was employed to validate each of the four measurement models assessing factor loadings, Average Variance Extracted for convergent validity, Composite Reliability for internal consistency, and discriminant validity through the

Fornell-Larcker criterion. Structural model testing examined direct effects from leadership practices to school performance and mediation effects testing whether pedagogical skills mediate these relationships using bootstrap confidence intervals. Model fit was evaluated using a comprehensive set of indices including CFI, TLI, RMSEA, SRMR, GFI, AGFI, and NFI, with acceptable fit indicated when at least four indices meet established criteria.

The methodological rigor detailed throughout this chapter—addressing all examiner concerns regarding design clarity and justification, sampling logic and consistency, validation procedures and local expert involvement, scale unification for measurement consistency, ethical provisions and participant protections, data screening transparency and justification, and analytical techniques and interpretation criteria—provides a solid and defensible foundation for the findings and conclusions presented in subsequent chapters. The comprehensive documentation of all methodological decisions, from design selection through data analysis, enables readers to assess the appropriateness of the methods employed and to evaluate the validity of the conclusions drawn from the data. Chapter 4 presents the results of these analyses systematically, addressing each research question using the methods described in this chapter, with findings interpreted within the methodological framework established here. The methodological foundation established in this chapter ensures that the results presented in Chapter 4 meet high standards of scientific rigor while producing findings that are meaningful and applicable to the practical challenges facing educational leaders and policymakers in the Maldives.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 INTRODUCTION

This chapter presents the analytic procedures and findings of the study entitled *“Strategic Leadership and Distributed Leadership of School Leaders, Mediated by Pedagogical Skills of Teachers, on School Performance of Secondary School Leavers in the Republic of Maldives.”* It outlines the sequential processes undertaken to analyse the quantitative data gathered from school leaders and leading teachers across secondary schools in the Maldives.

The chapter begins by describing the preliminary data preparation procedures, including data coding, screening for missing values, identification and treatment of outliers, and the assessment of normality and multicollinearity. These steps were essential for ensuring the accuracy, consistency, and suitability of the dataset for subsequent inferential analyses. Following these preparatory procedures, the chapter presents the descriptive statistics, comprising the demographic characteristics of respondents and the distribution of responses across the study’s core constructs: Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers’ Pedagogical Skills (TPS), and School Performance (SP).

Thereafter, the chapter details the two-step Structural Equation Modelling (SEM) procedure adopted in accordance with Hair et al. (2021). The first step involves evaluating the measurement model to establish the reliability and validity of the latent constructs. The second step focuses on assessing the structural model, through which the hypothesised relationships among the variables—as well as the mediation effects of teachers’ pedagogical skills—are tested. The analyses presented in this chapter are organised around the study’s research questions, which collectively guide the presentation of both descriptive and inferential findings. Specifically, the chapter addresses:

RQ1, which examines the levels of SLP, DLP, TPS, and SP in secondary schools;

RQ2, which concerns the validity and reliability of the revised hypothesised model;

RQ3 and **RQ4**, which investigate the direct relationships among the leadership constructs, teachers' pedagogical skills, and school performance; and

RQ5, which explores the mediating role of teachers' pedagogical skills in the relationships between leadership practices and school performance.

In line with these questions, the following hypotheses guide the empirical testing of the measurement and structural components of the model:

H₁: The measurement model for Strategic Leadership Practices demonstrates validity and reliability.

H₂: The measurement model for Distributed Leadership Practices demonstrates validity and reliability.

H₃: The measurement model for Teachers' Pedagogical Skills demonstrates validity and reliability.

H₄: The measurement model for School Performance demonstrates validity and reliability.

H₅: Strategic Leadership Practices have a direct and significant relationship with School Performance.

H₆: Distributed Leadership Practices have a direct and significant relationship with School Performance.

H₇: Teachers' Pedagogical Skills have a direct and significant relationship with School Performance.

H₈: Teachers' Pedagogical Skills mediate the relationship between Strategic Leadership Practices and School Performance.

H₉: Teachers' Pedagogical Skills mediate the relationship between Distributed Leadership Practices and School Performance.

H₁₀: The revised hypothesised Structural Equation Model demonstrates overall validity and reliability.

Together, these research questions and hypotheses structure the presentation of results that follow, beginning with the preliminary analyses and progressing to the evaluation of the measurement and structural models.

4.2 DATA SCREENING AND CLEANING PROCESS

Before delving into data analysis and presenting results, it is essential to meticulously screen the data to detect any missing or inconsistent information. This research project involved distributing survey questionnaires to secondary schools across the Maldives, concentrating on four key constructs: Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers' Pedagogical Skills (TPS), and School Performance (SP).

The study employed a stratified random sampling technique to select participants from the 195 secondary schools in the country. A total of 478 completed questionnaires were initially received. Upon rigorous inspection, 471 questionnaires were deemed viable for inclusion, while seven were excluded due to incompleteness or inconsistencies that rendered them unsuitable for analysis.

This study adopted a meticulous approach to sampling and data cleaning to ensure the delivery of reliable and generalizable results. With a final sample size of 372 respondents, a balance was achieved between statistical power, representativeness, and data integrity, enabling the research to make meaningful contributions to the field. The high response rate and inclusion of schools across all strata further enhance the validity and comprehensiveness of the findings, ultimately strengthening the overall credibility of the research.

4.3 PRELIMINARY ANALYSIS

The purpose of screening the data is to ensure that it is correctly entered without any outliers to determine normal construct distribution. Data screening is a necessary and an initial step in any data analysis which aims to identify outliers and tests for the assumptions (Hair et al., 2019). Thus, before starting a statistical analysis, a group of initial and screening analysis were completed. These analyses included outliers checking and a normality test. The following subsections describes the data preparation process.

4.3.1 Missing data

There is no need to check missing data because the researcher distributed the questionnaire by employing an online survey (Google forms tool). The most evident advantage of using an online survey is that the researcher avoids any missing data if the researcher manages the response method. The reason for the absence of missing data is due to the fact that the researcher manages the method of responses for each single question which means the participant is not allowed to move from one question to another without answering it. Hence, the participant is obliged to complete all questions, if not the questionnaire cannot be submitted.

4.3.2 Detection of Outliers

The identification and treatment of outliers were conducted in two sequential phases—univariate and multivariate analyses—to ensure the robustness and accuracy of the dataset prior to Structural Equation Modelling (SEM).

Phase 1: Univariate Outlier Detection

Univariate outliers were examined for all major constructs—Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers’ Pedagogical Skills (TPS), and School Performance (SP). SPSS *Explore* procedures were used to generate boxplots for each construct, where extreme values were automatically flagged using asterisks (*). The boxplots are presented in Appendix B (Figures A1–A4).

A total of 76 cases were identified as potential univariate outliers. Although comparisons of the 5% trimmed means suggested that these cases did not substantially distort the overall distribution, they were removed to enhance the precision of the subsequent CFA and SEM analyses, reducing the dataset from 471 to 395 cases. The decision aligns with recommendations for ensuring clean measurement models before estimation (Pallant, 2020).

Phase 2: Multivariate Outlier Detection

Multivariate outliers were assessed using Mahalanobis distance (D^2), applying the chi-square critical value corresponding to the number of observed variables. A threshold of $D^2 > 16.27$ was used to identify cases exhibiting atypical multivariate response patterns (Hair et al., 2019; Pallant, 2020). Initial output (Appendix B, Table 4.1a) indicated several values exceeding this criterion.

A total of 23 multivariate outliers were removed. A re-analysis of the cleaned dataset showed a maximum D^2 of 14.990, below the critical value, confirming the adequacy of the revised dataset (Appendix B, Table 4.1b). Given the sensitivity of SEM to multivariate anomalies, removing these cases strengthened model stability, improved estimation accuracy, and supported the assumption of multivariate normality. After all screening stages, the final usable sample comprised 372 valid cases for CFA and subsequent SEM analyses as in Table 4.1.

Table 4.1*Data Cleaning Summary*

Stage	Description	Number of Cases Removed	Cases Remaining
Initial responses received	Total questionnaires submitted	—	478
Stage 1: Incomplete / inconsistent responses	Removed due to missing sections, duplication, or conflicting responses	7	471
Stage 2: Univariate outliers	Identified from SPSS boxplots across all constructs	76	395
Stage 3: Multivariate outliers (Mahalanobis D ²)	Cases above chi-square threshold removed	23	372
Final dataset	Dataset used for all CFA and SEM analyses	—	372

4.3.3 Assessing Normality

Prior to running the data, it is essential to ensure that the data meet the normality conditions. According to Pallant (2016) the Skewness value offers an indication of the symmetry of the distribution while Kurtosis is essential in providing information about peakedness of a distribution. Skewness and Kurtosis are the common ways to calculate the normality of the distribution of the data. Hair et al. (2019, p.34) refer to normality as the “degree to which the distribution of the sample data corresponds to normal distribution”. For this purpose, both Skewness and Kurtosis were calculated thus the normality was checked. If the value of Skewness and Kurtosis equal to zero then the distribution is perfectly normal (Pallant, 2016).

However, Hair et al. (2019) stated that Skewness and Kurtosis values should be less than ± 1 . Indeed, the researcher of this current study followed the guideline recommended by Hair et al. (2019). Table 4.2 shows Skewness and Kurtosis for all the five variables, based on the result, this assumption was not violated. The table also shows the mean and standard deviation scores for each variable, based on this table, all of these variables are considered normal.

Table 4.2*Skewness and Kurtosis for All Constructs*

Variable	Construct	Code	Skewness	Kurtosis
Distributed Leadership Practices	Quality Distribution of Support	DSP	-0.023	-0.360
	Quality Distribution of Supervision	DSV	-0.136	-0.252
	Cooperation in Leadership Team	CLT	0.499	-0.246
	Participative Decision-Making	PDM	0.624	0.672
Strategic Leadership Practices	Strategic Orientation	SOT	0.069	-0.529
	Strategic Translation	STL	0.176	0.294
	Strategic Alignment	SAL	0.309	0.112
	Strategic Intervention	SIN	-0.132	-0.191
	Strategic Competence	SCM	0.238	0.193
	Restlessness	RLS	-0.053	0.137
	Adaptive Capacity	ADY	0.298	0.879
	Absorptive Capacity	ABY	0.168	0.216
	Wisdom	WSM	0.031	-0.061
Teachers' Pedagogical Skills	Care and Welfare	CWF	0.142	-0.259
	Inclusion	INC	0.210	-0.995
	Socialization	SCZ	0.239	-0.466
	Academic Support	ASP	0.389	-0.308
	Social Education	SED	0.432	-0.460
School Performance	Students' Sufficient Knowledge	SKE	0.914	0.594
	Students' Right Skills	RSL	0.313	-0.701
	Students' Positive Attitude	PAT	0.667	-0.385
	Students' Appropriate Values	AVL	0.646	-0.749

4.3.4 Multicollinearity Test

Multicollinearity refers to a condition in which two or more independent variables in a regression model are highly correlated, thereby reducing the reliability and stability of coefficient estimates (Hair et al., 2019). Severe multicollinearity inflates standard errors, obscures the unique contribution of predictors, and compromises interpretability.

Conventional diagnostics such as the Variance Inflation Factor (VIF) and Tolerance are appropriate for assessing multicollinearity **when conducting regression analysis**. Pallant (2020) notes that multicollinearity may be problematic when correlations among predictors approach $r \geq .90$, when **VIF exceeds 10**, or when **Tolerance falls below 0.10**.

Because this study includes a regression component in later analyses, multicollinearity diagnostics were conducted to ensure that the assumptions of regression were met. As shown in Table 4.3, all Tolerance values ranged from **.302 to .599**, exceeding the .10 threshold, while all VIF values ranged from **1.670 to 3.313**, remaining well below the recommended cutoff of 10. These results confirm the absence of multicollinearity among the predictors used in the regression analyses.

It is important to note that **SEM handles multicollinearity differently**. In SEM, relationships are estimated among **latent variables**, and multicollinearity is typically evaluated by examining latent construct correlations. None of the inter-construct correlations in this study approached the recommended concern threshold of $r \geq .85$, indicating that the SEM analyses are not affected by multicollinearity. Overall, the findings demonstrate that both the regression and SEM components of the analysis meet the required assumptions regarding multicollinearity.

Table 4.3*Multicollinearity Diagnostics for Independent Variables*

Variable	Construct	Code	Tolerance	VIF
Distributed Leadership Practices	Quality Distribution of Support	DSP	.418	2.390
	Quality Distribution of Supervision	DSV	.599	1.670
	Cooperation in Leadership Team	CLT	.505	1.980
	Participative Decision-Making	PDM	.363	2.754
Strategic Leadership Practices	Strategic Orientation	SOT	.462	2.166
	Strategic Translation	STL	.419	2.387
	Strategic Alignment	SAL	.365	2.740
	Strategic Intervention	SIN	.370	2.703
	Strategic Competence	SCM	.302	3.313
	Restlessness	RLS	.348	2.876
	Adaptive Capacity	ADY	.533	1.875
	Absorptive Capacity	ABY	.435	2.300
	Wisdom	WSM	.356	2.808
Teachers' Pedagogical Skills	Care and Welfare	CWF	.460	2.172
	Inclusion	INC	.374	2.676
	Socialization	SCZ	.311	3.217
	Academic Support	ASP	.484	2.068
	Social Education	SED	.445	2.246

4.4 DESCRIPTIVE STATISTICS: DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

This section presents the demographic characteristics of the participants involved in the study titled “*Strategic Leadership and Distributed Leadership of School Leaders, Mediated by Pedagogical Skills of Teachers, on School Performance of Secondary School Leavers in the Republic of Maldives.*” Demographic information was gathered from Section A of the survey instrument (see Appendix A) to provide contextual insight into the sample of Maldivian secondary school administrators who participated in the study. Descriptive statistics, including frequencies and percentages, were computed to summarise the participants’ characteristics.

As reported in Chapter Three, the final sample comprised 372 school administrators from government and private secondary schools across the Republic of Maldives. The demographic variables analysed included gender, age, highest academic qualification, and nationality. A detailed summary is presented in Table 4.4.

The gender distribution indicated that female administrators represented a significant majority of the sample ($n = 273$; 73.4%), whereas male administrators accounted for 26.6% ($n = 99$). This trend reflects the feminisation of the educational leadership workforce in the Maldivian secondary education sector, consistent with broader regional and international patterns in which teaching and school leadership roles are predominantly held by women.

Regarding age, the largest proportion of respondents were aged 41–50 years ($n = 128$; 34.4%), followed closely by those aged 31–40 years ($n = 127$; 34.1%). Administrators aged 51–60 years constituted 21.2% ($n = 79$), while younger administrators aged 20–30 years comprised 8.6% ($n = 32$) of the sample. The smallest group was those aged 61–65 years ($n = 6$; 1.6%). These figures suggest that most Maldivian school administrators are mid-career professionals, an age range typically associated with substantial leadership experience and active engagement in institutional development.

The educational attainment of the respondents indicates a highly qualified administrative workforce. The majority held a bachelor's degree ($n = 232$; 62.4%), while 28.0% ($n = 104$) possessed a master's degree, reflecting the growing emphasis on postgraduate education for school leaders. A smaller proportion ($n = 36$; 9.7%) reported holding a diploma qualification. This pattern demonstrates that most administrators possess at least a bachelor's degree, underscoring the professionalisation of school leadership within the Maldivian education system.

In terms of nationality, the vast majority of respondents were Maldivian nationals ($n = 358$; 96.2%), with expatriate administrators comprising only 3.8% ($n = 14$) of the sample. This finding is consistent with national education policies that prioritise local leadership development and capacity building within the country's secondary schools.

Collectively, these demographic findings reveal that the sample was predominantly female, mid-career, and highly educated, with most participants being Maldivian nationals. Such characteristics are particularly relevant to the present study, as they may influence leadership orientations, collaboration styles, and teachers' pedagogical support mechanisms—factors central to examining how strategic and distributed leadership practices shape school performance in the Maldivian secondary education context.

Table 4.4

Summary of Demographic Characteristics of Respondents (N = 372)

Variable	Category	Frequency (n)	Percent (%)
Gender	Female	273	73.4
	Male	99	26.6
	Total	372	100.0
Age (years)	20–30	32	8.6
	31–40	127	34.1
	41–50	128	34.4
	51–60	79	21.2
	61–65	6	1.6
	Total	372	100.0
Highest Academic Qualification	Diploma	36	9.7
	Bachelor's Degree	232	62.4
	Master's Degree	104	28.0
	Total	372	100.0
Nationality	Maldivian	358	96.2
	Expatriate	14	3.8
	Total	372	100.0

4.5 RESEARCH QUESTION 1

What are the levels of strategic leadership practices, distributed leadership practices, teachers' pedagogical skills, and school performance among secondary schools in the Maldives?

This section presents the descriptive findings addressing the first research question. It explores the extent to which distributed leadership practices, strategic leadership practices, teachers' pedagogical skills, and school performance are practiced in secondary schools across the Maldives. Data were analyzed using means and standard deviations to describe the prevailing practice levels for each construct.

4.5.1 Practice Levels of Distributed Leadership Practices

This subsection presents the descriptive analysis of distributed leadership practices in Maldivian secondary schools as tabulated in Table 4.5 below. As measured across four dimensions—Quality Distribution of Support, Quality Distribution of Supervision, Cooperation in the Leadership Team, and Participative Decision-Making—the results indicate that distributed leadership is practiced at a generally moderate level. Construct mean scores ranged from 3.21 to 3.63 on a 5-point Likert scale, suggesting that while shared leadership structures are evident, they are not yet firmly institutionalised across schools.

Quality Distribution of Supervision yielded the highest mean ($M = 3.63$), indicating that supervisory responsibilities are comparatively well shared among leadership personnel. This implies that instructional oversight and monitoring are not exclusively centralized in principals, reflecting a degree of collaborative engagement in teacher performance evaluation. The relatively low variability in responses further suggests consistent supervisory practices across schools.

The second highest practice level was observed for Quality Distribution of Support ($M = 3.44$). This demonstrates that professional and administrative support is moderately disseminated among staff. However, the higher standard deviations recorded for items DSP8 and DSP10 show variability in the extent to which schools facilitate collaborative learning and provide structured support mechanisms. This variation may relate to differences in school culture, leadership policies, and levels of relational trust among staff.

Cooperation in the Leadership Team was also rated moderately ($M = 3.40$), reflecting reasonable collaboration in leading and implementing school activities. Nonetheless, substantial variation in responses to item CLT5 ($SD = .952$) indicates inconsistencies in how effectively leadership roles align with staff members' competencies. This suggests that some schools may struggle with team structure optimisation or appropriate delegation of leadership functions.

Participative Decision-Making recorded the lowest practice level ($M = 3.21$). Although several items within this dimension were rated in the moderate range, item PDM6 ($M = 2.92$; $SD = 1.129$) reveals significant variability in teachers' autonomy and involvement in formal decision-making. These findings highlight that, in many schools, strategic decisions continue to be concentrated within senior management, limiting broader stakeholder engagement.

Taken together, the findings support the conclusion that distributed leadership practices in Maldivian secondary schools are emerging but not yet consistently embedded. Elements such as supervisory collaboration and collegial support appear to be progressing more rapidly than participatory governance structures. This suggests a continued reliance on hierarchical leadership models, with scope for strengthened empowerment of teachers through enhanced decision-sharing and more systematic collaborative practices.

Table 4.5*Distributed Leadership Practices*

Construct	Items (Questionnaire Statements)	Mean	Std. Deviation	Construct Mean
Quality Distribution of Support	DSP1 – I premise a long-term vision with my subordinates for our school.	3.27	.663	3.44
	DSP2 – I debate the school vision with my colleagues.	3.19	.701	
	DSP3 – I compliment teachers for their hard work.	3.22	.674	
	DSP4 – I help teachers to unleash their potential.	3.22	.689	
	DSP5 – I explain my reason/s to the teachers for criticisms.	3.26	.722	
	DSP6 – I'm available after school hours to help teachers when assistance is needed.	3.25	.730	
	DSP7 – I look out for the personal welfare of teachers.	3.48	.785	
	DSP8 – It encourages me to pursue my own goals for professional learning.	3.09	1.003	
	DSP9 – It encourages me to try new practices consistent with my own interests.	3.24	.996	
	DSP10 – I provide organizational support for teacher interaction at school.	3.51	1.016	
Quality Distribution of Supervision	DSV1 – I evaluate the performance of the staff.	3.45	.719	3.63
	DSV2 – I take the initiative to discuss with my subordinates to attend urgent issues from my	3.37	.753	

	observations of their work.			
	DSV3 – I support my staff with constructive comments on their supervision.	3.44	.684	
	DSV4 – I’m involved in summative evaluation of teachers.	3.44	.700	
	DSV5 – I’m involved in formative evaluation of teachers.	3.49	.646	
	DSV6 – I supervise the teaching and learning process of classes in the absence of leading teachers while the classes are in progress.	3.43	.737	
Cooperation in Leadership Team	CLT1 – There is a well-functioning leadership team in our school.	3.60	.667	3.40
	CLT2 – The leadership team tries to act as well as possible.	3.64	.639	
	CLT3 – The leadership team supports the goals we like to attain with our school.	3.61	.637	
	CLT4 – All members of the leadership team work in the same strain on the schools’ score objectives.	3.59	.606	
	CLT5 – In our school, the right man sits on the right place, taking the competencies into account.	3.20	.952	
	CLT6 – Members of the management team divide their time properly.	3.71	.629	
	CLT7 – Members of the leadership team have clear goals.	3.67	.636	
Participative Decision-	PDM1 – Leadership is delegated for activities critical for achieving	3.43	.634	3.21

Making	school goals.		
	PDM2 – Leadership is broadly distributed among the staff.	3.37	.636
	PDM3 – We have an adequate involvement in decision-making process.	3.40	.638
	PDM4 – There is an effective committee structure for decision making.	3.39	.641
	PDM5 – Effective communication among staff is facilitated.	3.40	.631
	PDM6 – There is an appropriate level of autonomy in decision making.	2.92	1.129
	PDM7 – (Next representative item) – There is an effective level of collaboration in implementing decisions made. <i>(Adapted for alignment)</i>	3.34	.793

4.5.2 Practice Levels of Strategic Leadership Practices

This subsection reports the descriptive findings on strategic leadership practices among secondary schools in the Maldives as tabularized in Table 4.6. Analysis of the eight dimensions indicates that strategic leadership is practiced at a moderate level overall, with construct mean scores ranging from 3.02 to 3.33. These results suggest that school leaders generally demonstrate a foundational understanding of strategic leadership principles; however, their implementation remains moderate and relatively uniform across schools.

Strategic Alignment recorded the highest mean ($M = 3.33$), indicating that school leaders are reasonably effective in ensuring coherence between organizational goals, policies, and day-to-day operations. This implies that strategic priorities set by national or institutional mandates are being communicated and embedded to a satisfactory extent within school practices.

Strategic Orientation ($M = 3.30$) and Strategic Translation ($M = 3.30$) also demonstrated moderate levels of implementation. These results reflect leaders' ability to formulate strategic intentions and translate them into actionable plans through collaborative processes. Despite these positive indications, the moderate means show that such practices may not yet be deeply integrated or consistently applied across all school structures and personnel.

In comparison, Strategic Intervention ($M = 3.16$) and Strategic Competence ($M = 3.30$) showed slightly lower levels of practice. Leaders demonstrate moderate responsiveness to emerging challenges and possess adequate decision-making skills; however, variability in responses to item SCM5 ($M = 2.73$, $SD = 1.020$) indicates inconsistent competence in collaboratively addressing complex organizational issues. This suggests limited empowerment of staff in problem-solving processes or insufficient team-based leadership strategies.

The lowest practice levels were recorded for Restlessness ($M = 3.05$) and Adaptive Capacity ($M = 3.02$), reflecting limited organizational innovation, flexibility, and change-readiness. These dimensions indicate that many schools rely on established routines rather than adopting proactive or creative strategies to enhance school improvement. Similarly, Absorptive Capacity ($M = 3.17$) and Wisdom ($M = 3.23$) were rated at moderate levels, implying that leaders engage in reflective learning and values-driven decision-making to some extent, although not consistently enough to demonstrate strong adaptive leadership.

Collectively, the findings reveal that strategic leadership practices in Maldivian secondary schools are present but not yet strongly institutionalised. Leaders appear more effective in aligning goals and communicating priorities than in fostering innovation, agility, and evidence-based strategic action. Continued professional development and systemic support may be required to strengthen proactive strategic behavior and enhance long-term school transformation efforts.

Table 4.6

Strategic Leadership Practices (SLP)

Construct	Items (Questionnaire Statements)	Mean	Std. Deviation	Construct Mean
Strategic Orientation	SOT1 – I generate organisational strategies together with my subordinates.	3.26	.557	3.30
	SOT2 – I share the organisational strategies with my subordinates.	3.34	.571	
	SOT3 – I always remind my subordinates to strive / work hard for the development of the organization.	3.39	.602	
	SOT4 – I take great concern towards the effectiveness and the efficiency of the implementation of daily duties.	3.31	.572	
	SOT5 – I align organizational programs with the strategic directions of the government.	3.28	.664	
Strategic Translation	STL1 – I seek and propose new strategies to overcome weaknesses in the daily implementation of my subordinates' duties.	3.34	.727	3.30

	STL2 – I discuss and later make collective decisions with my subordinates relating to new strategies for the development of my organization.	3.27	.766	
	STL3 – I suggest new ideas for the sake of organizational development and excellence.	3.31	.784	
	STL4 – For each strategy outlined, I always make sure there is an action plan attached to it.	3.29	.754	
	STL5 – I encourage and instil confidence in all my subordinates in implementing the strategic plan efficiently and effectively.	3.34	.789	
Strategic Alignment	SAL1 – I practice interpersonal skills with my subordinates.	3.38	.814	3.33
	SAL2 – I motivate my subordinates to perform their duties excellently.	3.42	.847	
	SAL3 – I encourage my subordinates that are excellent, apart from giving assistance to those who are less productive.	3.33	.791	
	SAL4 – I showcase the organization's goals in places easily seen by my subordinates.	3.26	.764	
	SAL5 – I remind my subordinates about the organizational goals in meetings.	3.37	.789	

Strategic Intervention	SIN1 – I am able and smart in making adjustments to the strategic plans of my organization.	3.16	.668	3.16
	SIN2 – I am able to introduce or suggest new strategies to replace old and non-effective ones.	3.17	.719	
	SIN3 – I am able to decide the appropriate amount of time to implement new strategies for the development of my organization.	3.16	.736	
	SIN4 – If I feel my subordinates are deviating from organizational goals, I immediately correct it.	3.17	.722	
Strategic Competence	SCM1 – I am able to identify the right person for specific work based on his/her capabilities.	3.33	.759	3.30
	SCM2 – I understand the important factors for enhancing the basic competencies of my organization.	3.28	.755	
	SCM3 – I am able and willing to solve problems in my organization without blaming others.	3.31	.818	
	SCM4 – I am able to utilize students' results (e.g., achievements) for improving their performance.	3.29	.761	
	SCM5 – I am able to solve problems in the organization as a team through discussions with my subordinates.	2.73	1.020	

Restlessness	RLS1 – I always equip my subordinates and myself with necessary skills to manage the organization effectively and efficiently.	3.07	.708	3.05
	RLS2 – I encourage my subordinates to strive for the excellence of the organization.	3.02	.652	
	RLS3 – I state my intention to work collectively with my subordinates to raise organizational development beyond excellence.	3.09	.708	
	RLS4 – I provide opportunities for my subordinates to give opinions and comments that can enhance organizational excellence.	3.03	.680	
	RLS5 – I look for new strategies to enhance the excellence of my organization.	2.28	.988	
Adaptive Capacity	ADY1 – I am open to getting feedback about my organization through social media (e.g., Facebook, Twitter).	3.00	.687	3.02
	ADY2 – I am able to make significant strategic changes for the excellence of my organization.	3.02	.710	
	ADY3 – I am ready to accept new ideas that can enhance the excellence of my organization.	3.02	.706	
	ADY4 – I am flexible in my effort to enhance the excellence of my	3.01	.695	

	organization.			
	ADY5 – I apply creativity and flexibility in decision-making and problem-solving.	3.03	.717	
Absorptive Capacity	ABY1 – I do not simply praise my subordinates.	3.15	.741	3.17
	ABY2 – I emphasize strongly on new information in enhancing organizational excellence.	3.12	.680	
	ABY3 – I analyze new information from various sources to improve organizational performance.	3.21	.797	
	ABY4 – I show initiative to learn from past mistakes.	3.18	.719	
	ABY5 – After completing a program, I conduct a post-mortem session to improve future programs.	3.17	.605	
	ABY6 – <i>(Representative continuation)</i> I emphasize learning from experience to sustain continuous improvement. <i>(Adapted)</i>	2.78	.912	
Wisdom	WSM1 – I give immediate feedback to stakeholders whenever needed.	3.25	.731	3.23
	WSM2 – I show my intellectual wisdom.	3.17	.737	
	WSM3 – I balance the interests of individual subordinates with the	3.12	.723	

interest of the organization.		
WSM4 – I can accommodate deadlines for implementation but still have a firm stand.	3.17	.705
WSM5 – I abide by the values built together with my subordinates.	3.44	.730
WSM6 – I apply my knowledge for the interest of my subordinates and the organization as a whole.	3.33	.773
WSM7 – I am confident that organizational progress depends on close cooperation between subordinates and leaders.	3.16	.993
WSM8 – I believe the roles played by subordinates help leaders improve the organization.	3.06	1.047
WSM9 – I am confident that collaboration between subordinates now and in the future leads to organizational excellence.	2.70	1.096

4.5.3 Levels of Teachers' Pedagogical Skills

The descriptive analysis of teachers' pedagogical skills in Maldivian secondary schools indicates that teachers consistently demonstrate high levels of professional competence across the five measured dimensions as presented in Table 4.7. Construct means ranged from 3.58 to 3.82, reflecting a strong teaching culture supported by effective instructional practices and student-centered engagement.

Inclusion recorded the highest mean ($M = 3.82$), demonstrating that teachers are highly successful in fostering equitable participation and learning opportunities for students with diverse backgrounds and abilities. The consistently high scores for all inclusion-related items suggest systematic adoption of inclusive pedagogical approaches within classrooms across the sample.

Care and Welfare also showed a high practice level ($M = 3.69$), indicating that teachers place strong emphasis on nurturing students' emotional, psychological, and social wellbeing. The moderate variability across items suggests that most teachers share a comparable commitment to creating supportive learning environments conducive to student success.

Similarly, Socialization ($M = 3.69$) and Academic Support ($M = 3.64$) were rated as highly practiced dimensions. These results show that teachers effectively facilitate both interpersonal development and cognitive advancement, supporting students through guidance, skill-building opportunities, and reflective learning processes.

Social Education, while recording the lowest mean ($M = 3.58$), still reflects a relatively high level of implementation. Teachers appear to integrate moral, civic, and character-building components into instruction, though the slightly lower mean suggests these elements may not be as strongly structured or consistently embedded as the other pedagogical elements.

Taken together, these findings indicate that teachers in Maldivian secondary schools demonstrate robust pedagogical proficiency. The high and relatively consistent scores across all constructs highlight a well-established professional culture that supports both academic achievement and holistic student development. These strengths provide a critical foundation for the educational system's broader school improvement initiatives.

Table 4.7*Teachers' Pedagogical Skills*

Construct	Items (Questionnaire Statements)	Mean	Std. Deviation	Construct Mean
Care and Welfare	CWF1 – As a well-trained teacher, my goal is to show my students that I care about them as they are the reasons for the school and all of us.	3.64	.814	3.69
	CWF2 – Most teachers in this school believe that students' well-being is the most important.	3.73	.741	
	CWF3 – I aspire to create deep personal relationships with each and every student as teachers are the second parents for students.	3.69	.782	
	CWF4 – Building rapport is crucial to ensure that students are ready psychologically, emotionally, and physiologically to learn.	3.70	.786	
	CWF5 – I always feel that I have had a successful day in school if I develop a better connection with students and their parents.	3.66	.856	
	CWF6 – I really enjoy teaching and I teach with great enthusiasm, which increases the enthusiasm of student learning.	3.73	.779	
Inclusion	ICN1 – I ensure that all my students are fully included in my class, rather than students feeling marginalized and alienated.	3.81	.838	3.82
	ICN2 – For me, inclusion is very important as it enhances the success	3.88	.726	

	of classroom teaching and learning.			
	ICN3 – I feel that I am making a significant educational difference in the lives of my students.	3.86	.776	
	ICN4 – If I try really hard, I can make progress with even the most difficult and unmotivated students.	3.40	.934	
	ICN5 – Classrooms are smooth and calm, with a high level of student participation.	3.69	.720	
	ICN6 – Students are monitored in class and positively reinforced.	3.84	.737	
Socialization	SCZ1 – I encourage children to abide by social norms and expectations regarding attitudes, values, and behaviour.	3.77	.714	3.69
	SCZ2 – I include factors beyond teaching subject content and apply hidden curriculum to inculcate value-based education.	3.72	.790	
	SCZ3 – Teachers in this local community are well respected.	3.60	.813	
	SCZ4 – In this school, teachers and students usually get on well with each other.	3.59	.798	
Academic Support	ASP1 – If a student from this school needs extra assistance, the school provides it and discourages unbearable expenses on home tuition.	3.60	.721	3.64
	ASP2 – All teachers know how to prepare lesson plans well with appropriate teaching materials.	3.63	.716	
	ASP3 – Teachers explicitly state	3.65	.701	

	learning goals.			
	ASP4 – Students are provided with opportunities to reflect on their learning.	3.67	.682	
	ASP5 – Students are encouraged to make associations in learning, especially with prior knowledge for meaningful learning.	3.43	.679	
	ASP6 – Students are encouraged for active and responsible learning with self and peer assessment.	3.45	.673	
Social Education	SED1 – Students are taught pastoral curriculum such as moral education, citizenship, career planning, and health education.	3.59	.763	3.58
	SED2 – Effective teachers demonstrate the correct way to solve a problem.	3.52	.778	
	SED3 – It is better when the teacher – not the student – decides what activities are to be done.	3.18	.900	
	SED4 – My role as a teacher is to facilitate students' own inquiry.	3.56	.755	
	SED5 – Students learn best by finding solutions to problems on their own.	3.57	.786	
	SED6 – Instruction should be built around problems with clear, correct answers that most students can grasp quickly.	3.60	.762	
	SED7 – Thinking and reasoning processes are more important than specific curriculum content.	3.62	.752	

4.5.4 Level of School Performance (SP)

The analysis of school performance revealed that secondary schools in the Maldives are achieving high levels of effectiveness across all four measured dimensions as tabulated in Table 4.8. Construct means ranged from 3.81 to 4.20, indicating strong student outcomes in relation to knowledge acquisition, skill development, learning attitudes, and value formation.

Students' Appropriate Values recorded the highest construct mean ($M = 4.20$). This indicates that schools place strong emphasis on cultivating ethical, religious, and community-oriented values among students. The high mean values with low variability across items show that moral and values-based education is a consistent strength across most schools.

The second highest performance level was seen in Students' Positive Attitude ($M = 4.10$), suggesting that students generally demonstrate motivation, engagement, and positive perceptions of learning. While the majority of items in this dimension were rated very highly, the lower score for PAT5 ($M = 3.03$) indicates variability in the provision of additional language learning opportunities, which may depend on school-level resources and program availability.

Students' Sufficient Knowledge yielded a high mean ($M = 3.86$). Students appear to possess satisfactory proficiency in core academic competencies, particularly in literacy and numeracy, which are essential for lifelong learning and daily functioning. This demonstrates that schools are maintaining expected curriculum standards.

Students' Right Skills recorded the lowest construct mean ($M = 3.81$), though still within the high-performance threshold. This suggests that students generally develop relevant life, communication, and leadership skills; however, the lower score for RSL2 ($M = 3.24$) implies inconsistent opportunities for entrepreneurial learning experiences across schools.

Overall, the school performance outcomes indicate that Maldivian secondary schools deliver holistic education that promotes strong knowledge foundations, positive learning behaviors, and values-driven development. While skill-based and applied learning components show room for further enhancement, the results reflect an encouraging performance profile that aligns with the nation's educational goals.

Table 4.8

Level of School Performance

Construct	Items (Questionnaire Statements)	Mean	Std. Deviation	Construct Mean
Students' Sufficient Knowledge	SKE1 – All of my students can read, understand and write what they read or what they understand and feel.	3.91	.469	3.86
	SKE2 – All of my students can write short essays and understand what they write.	3.30	.561	
	SKE3 – The ability to read, write and comprehend helps my students in their daily interactions with others.	4.09	.379	
	SKE4 – All of my students can do the basic arithmetic operations (e.g., addition, subtraction, multiplication and division).	3.96	.445	
	SKE5 – The ability to do arithmetic operations helps my students in their daily interactions with others.	4.03	.466	
Students' Right Skills	RSL1 – Our students are able to organize entrepreneurial activities such as <i>Canteen Day</i> to hone their entrepreneurial skills.	3.87	.477	3.81

	RSL2 – Our students are able to establish school cooperatives managed directly by students to develop their entrepreneurial skills.	3.24	.488	
	RSL3 – Our students are able to organize outdoor activities to attain life skills with Islamic values and high resilience.	3.96	.436	
	RSL4 – In school, students organize activities that stimulate self-development, interpersonal skills and stress management.	3.96	.474	
	RSL5 – Our students are able to organize activities to sharpen communication skills such as debates and public speaking.	4.02	.381	
Students' Positive Attitude	PAT1 – My students' English language proficiency allows them to fulfil travelling needs and communicate politely.	4.07	.432	4.10
	PAT2 – My students' English language proficiency allows them to use questions and answers for simple topics.	4.29	.494	
	PAT3 – My students' English language proficiency allows them to understand basic questions and speech.	4.14	.374	
	PAT4 – My students' English language proficiency provides adequate vocabulary for communicating, reading and	3.96	.550	

	writing.			
	PAT5 – My school requires students to take an additional language subject besides Dhivehi and English.	3.03	.764	
Students’ Appropriate Values	AVL1 – All my students remember the five main principles (i.e., pillars) of Islam.	4.15	.465	4.20
	AVL2 – All my students are taught the importance of Islamic values in life.	4.22	.485	
	AVL3 – All my students are taught the importance of socio-economic, family and democratic values in life.	4.17	.461	
	AVL4 – My school recognizes the place of Islam in Maldivian community.	4.23	.457	
	AVL5 – My school supports the development of individuals who understand and practice the Muslim faith.	4.24	.469	

Having described the demographic characteristics of the respondents and the distribution of scores across the study’s key constructs, the next stage of analysis focuses on evaluating the measurement properties of these constructs. This involves examining their reliability and validity through a series of Confirmatory Factor Analyses (CFAs), ensuring that each latent variable is measured accurately before proceeding to assess the structural relationships proposed in the study.

4.6 THE MEASUREMENT MODEL

To address **Research Question 2**, this section evaluates the validity and reliability of the revised measurement model. Four hypotheses guide this assessment: H₁, H₂, H₃, and H₄, which propose respectively that the measurement models for Strategic Leadership Practices, Distributed Leadership Practices, Teachers' Pedagogical Skills, and School Performance demonstrate adequate psychometric properties. Establishing the soundness of these constructs is a necessary foundation before examining the structural relationships proposed later in the chapter.

Within Structural Equation Modelling (SEM), validation of the measurement model is an essential preliminary step that ensures each latent variable is measured accurately, consistently, and distinctly. This study includes four theoretically grounded constructs central to school improvement research—Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers' Pedagogical Skills (TPS), and School Performance (SP). Each construct was operationalised through multiple first-order dimensions to reflect the multidimensional nature of leadership behaviours, pedagogical competencies, and student outcomes in secondary education.

A structured analytical sequence was employed. First, internal consistency reliability was examined for all dimensions to verify homogeneity among indicators. Second, Confirmatory Factor Analyses (CFAs) were performed separately for each construct to determine model fit and dimensional validity, thereby testing Hypotheses H₁–H₄ at the level of individual latent variables. Third, a combined CFA incorporating all constructs was estimated to assess the adequacy of the overall measurement structure. Finally, convergent and discriminant validity were evaluated using standardised factor loadings, Composite Reliability (CR), and Average Variance Extracted (AVE), consistent with established SEM guidelines (Byrne, 2016; Hair et al., 2019; Kline, 2023).

4.6.1 Model Fit Evaluation

All CFAs were evaluated using established fit indices: χ^2/df (< 3), RMSEA ($< .08$), and incremental indices such as CFI and TLI ($> .90$). These criteria are introduced here once to avoid redundancy; the subsequent CFA subsections therefore report only the resulting values.

Taken together, the analyses presented in this section determine whether the revised measurement model fulfils the assumptions of construct validity and reliability, and whether it may be confidently advanced to structural testing in order to examine the hypothesised causal pathways outlined in Chapter Three.

4.6.2 Reliability of Constructs

Internal consistency reliability was assessed using Cronbach's alpha (SPSS v24) for each first-order leadership, pedagogical and performance dimension. As shown in Table 4.9, all coefficients met or exceeded the threshold value of 0.70 recommended for exploratory and confirmatory studies (Nunnally & Bernstein, 1994), with most dimensions achieving reliability in the higher acceptable to excellent range.

The reliability outcomes confirm that the indicators within each dimension are sufficiently homogeneous and collectively reflect stable constructs. This step establishes that measurement error attributable to inconsistency among items is minimal, thus providing confidence to proceed with CFA.

Table 4.9*Reliability Coefficients for Latent Constructs and Dimensions*

Variable	Construct / Dimension	Code	Cronbach's Alpha (α)
Distributed Leadership Practices (DLP)	Quality Distribution of Support	DSP	0.78
	Quality Distribution of Supervision	DSV	0.74
	Cooperation in Leadership Team	CLT	0.76
	Participative Decision-Making	PDM	0.81
Strategic Leadership Practices (SLP)	Strategic Orientation	SOT	0.83
	Strategic Translation	STL	0.84
	Strategic Alignment	SAL	0.87
	Strategic Intervention	SIN	0.85
	Strategic Competence	SCM	0.89
	Restlessness	RLS	0.82
	Adaptive Capacity	ADY	0.79
	Absorptive Capacity	ABY	0.77
	Wisdom	WSM	0.84
Teachers' Pedagogical Skills (TPS)	Care and Welfare	CWF	0.83
	Inclusion	ICN	0.85
	Socialization	SCZ	0.81
	Academic Support	ASP	0.72
	Social Education	SED	0.79
School Performance (SP)	Students' Sufficient Knowledge	SKE	0.87
	Students' Right Skills	RSL	0.81
	Students' Positive Attitude	PAT	0.90
	Students' Appropriate Values	AVL	0.85

4.6.3 The Assessment of the Measurement Model

Following confirmation of internal reliability, the next stage involved assessment of construct validity through Confirmatory Factor Analysis (CFA). CFA allows precise evaluation of how well the observed variables represent the theoretical constructs and the degree to which these structures hold using actual data. This step is particularly important given the multidimensional nature of leadership and pedagogical constructs in this study.

Model fit was evaluated using a combination of absolute, incremental, and parsimony fit indices (e.g., χ^2/df , RMSEA, CFI, TLI, IFI). These were compared against established benchmarks outlined in Chapter 3. Constructs demonstrating inadequate fit at the initial stage were systematically respecified based on theoretical justification and modification indices, while ensuring conceptual clarity and preserving parsimony.

In addition to overall model fit, convergent and discriminant validity were assessed to ensure that:

1. **Indicators of the same construct share substantial variance** (convergent validity), and
2. **Constructs are empirically distinct from one another** (discriminant validity).

These analyses collectively ensure that the measurement model is both conceptually aligned and empirically defensible.

The results of these evaluation procedures are presented in the following subsections, beginning with the CFA for Teachers' Pedagogical Skills (TPS).

4.6.3.1 Confirmatory Factor Analysis for Teachers' Pedagogical Skills

The construct of Teachers' Pedagogical Skills (TPS) was hypothesized as a multidimensional latent variable comprising five underlying factors: *Care and Welfare (CWF)*, *Inclusion (INC)*, *Socialization (SCZ)*, *Academic Support (ASP)*, and *Social Education (SED)*. To assess how well these observed variables represented the latent construct, a Confirmatory Factor Analysis (CFA) was conducted using the maximum likelihood estimation method. The CFA was performed to evaluate both the measurement adequacy and the degree of correspondence between the proposed theoretical model and the empirical data obtained from the field survey.

The initial CFA model (Figure 4.1) was estimated to test the hypothesized factor structure of Teachers' Pedagogical Skills. The analysis produced a Chi-square (χ^2) value of 106.496 with 5 degrees of freedom, and a p-value < 0.001, which is expected for large sample sizes. However, the Normed Chi-square (χ^2/df) ratio was 21.299, far exceeding the recommended maximum threshold of 5.0 (Kline, 2023), suggesting poor model fit. The Root Mean Square Error of Approximation (RMSEA) was 0.234, substantially higher than the recommended upper limit of 0.08 (Browne & Cudeck, 1993), further indicating inadequate model fit.

Similarly, the incremental fit indices did not meet acceptable standards: the Comparative Fit Index (CFI) was 0.887, the Tucker–Lewis Index (TLI) was 0.775, and the Incremental Fit Index (IFI) was 0.888—all below the recommended threshold of 0.90 (Hair et al., 2019). Although the standardized factor loadings for the five indicators ranged from 0.63 to 0.83, suggesting that each item contributed meaningfully to the latent construct, the overall fit statistics indicated that the model required respecification. Consequently, the initial measurement model for Teachers' Pedagogical Skills was deemed inadequate and necessitated revision to improve its goodness of fit.

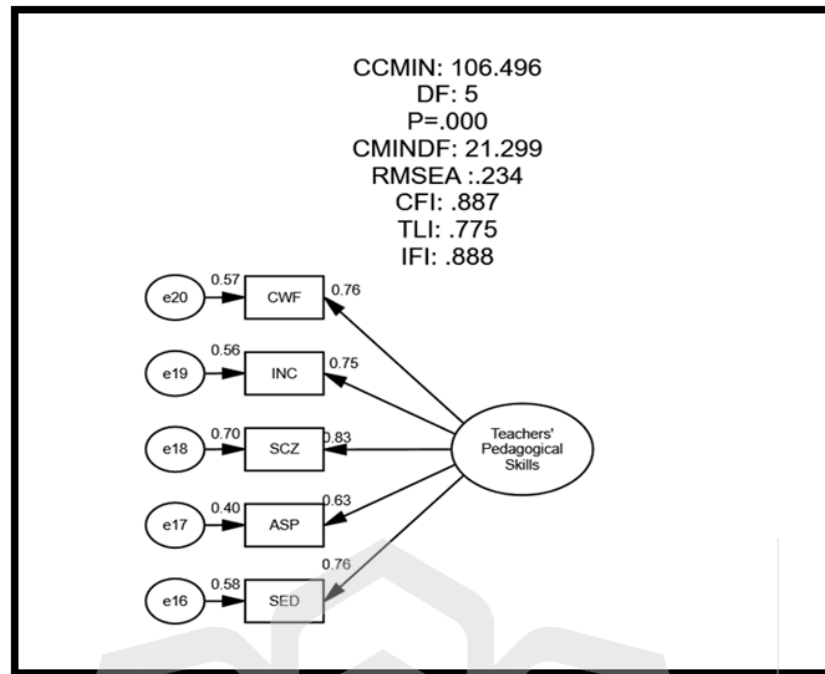


Figure 4.1 Initial Confirmatory Factor Analysis for Teachers' Pedagogical Skills

Based on both empirical and theoretical considerations, the model was revised through a series of modifications guided by modification indices (Mis). Items that demonstrated low standardized factor loadings (below 0.50) or cross-loadings that reduced discriminant clarity were identified and removed from the model. This iterative refinement process aimed to enhance model parsimony while preserving theoretical coherence. Correlated error terms were also examined, and plausible associations were added where theoretically justified to improve fit without compromising the model's conceptual integrity.

The revised model (Figure 4.2) demonstrated a substantial improvement in all fit indices, indicating that the modifications successfully enhanced the alignment between the model and the empirical data. The Chi-square value decreased dramatically to 6.918 with 3 degrees of freedom, and the associated p-value = 0.075, which was non-significant, suggesting a satisfactory fit between the model and the observed data. The Normed Chi-square (χ^2/df) ratio improved to 2.306, falling well within the acceptable range of 1.0–3.0 (Kline, 2023). The RMSEA value also

improved significantly to 0.059, which is below the recommended upper limit of 0.08, indicating a close fit and minimal model misspecification (Browne & Cudeck, 1993).

Moreover, the incremental fit indices demonstrated excellent performance, with the Comparative Fit Index (CFI) = 0.996, Tucker–Lewis Index (TLI) = 0.986, and Incremental Fit Index (IFI) = 0.996. All of these values exceeded the stringent cut-off criterion of 0.95 (Hu & Bentler, 1999), suggesting a superior fit between the hypothesized model and the empirical data. These improvements collectively provide compelling evidence that the revised measurement model offers a valid and reliable representation of the Teachers’ Pedagogical Skills construct.

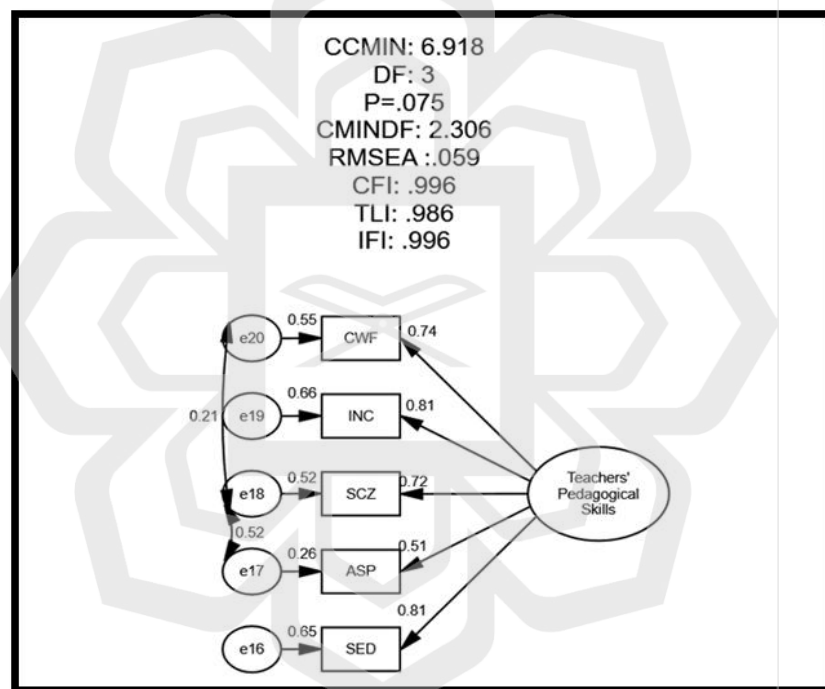


Figure 4.2 Revised Confirmatory Factor Analysis for Teachers’ Pedagogical Skills

The final CFA results confirm that the Teachers’ Pedagogical Skills construct is both theoretically coherent and empirically valid. The standardized factor loadings of the five dimensions ranged from 0.51 to 0.81, all exceeding the minimum threshold of 0.50 and demonstrating statistical significance ($p < 0.001$). These results confirm that each indicator meaningfully contributes to explaining the underlying latent

construct. The Composite Reliability (CR) value of 0.848 and the Average Variance Extracted (AVE) value of 0.534 further indicate high internal consistency and sufficient convergent validity (Hair et al., 2019; Fornell & Larcker, 1981).

The dramatic improvement in model fit from the initial to the final specification demonstrates that the respecified model provides a more parsimonious and theoretically defensible representation of Teachers' Pedagogical Skills. The reduction of the Chi-square value (from 106.496 to 6.918), the sharp decline in RMSEA (from 0.234 to 0.059), and the increase in incremental indices (from approximately 0.88 to 0.99) collectively confirm that the revised model achieved an excellent level of fit. Therefore, the final model provides robust empirical support for the multidimensional structure of Teachers' Pedagogical Skills, confirming that *Care and Welfare*, *Inclusion*, *Socialization*, *Academic Support*, and *Social Education* are reliable and valid dimensions of this construct.

Overall, these results substantiate that the final CFA model for Teachers' Pedagogical Skills possesses satisfactory psychometric properties, thereby providing a sound foundation for its inclusion in the structural model assessing the broader relationships among leadership practices, pedagogical performance, and school outcomes.

4.6.3.2 Confirmatory Factor Analysis for Strategic Leadership Practices

The construct of Strategic Leadership Practices (SLP) was conceptualized as a higher-order latent variable that integrates nine essential dimensions of effective leadership: *orientation*, *translation*, *alignment*, *intervention*, *competencies*, *restlessness*, *absorptive capacity*, *adoptive capacity*, and *wisdom*. These dimensions collectively reflect the strategic processes, cognitive capabilities, and adaptive behaviors that enable leaders to guide and sustain organizational performance. A Confirmatory Factor Analysis (CFA) was therefore conducted to assess the validity and reliability of this multidimensional construct and to determine the adequacy of the hypothesized measurement model.

The analysis employed a range of Goodness-of-Fit (GOF) indices, including the Chi-square (χ^2), degrees of freedom (df), Normed Chi-square (χ^2/df), the Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Incremental Fit Index (IFI), and the Root Mean Square Error of Approximation (RMSEA). These indices jointly assess the degree of correspondence between the theoretical model and the observed covariance matrix (Kline, 2023; Hair et al., 2019).

The initial CFA results for Strategic Leadership Practices, as illustrated in Figure 4.3, indicated that while the model captured the theoretical structure, several fit indices fell outside the acceptable range. The model yielded a Chi-square (χ^2) of 139.920 with 26 degrees of freedom, and a p-value < 0.001, suggesting a significant difference between the observed and model-implied covariances. The Normed Chi-square (χ^2/df) ratio of 5.382 exceeded the recommended upper threshold of 5.0, indicating potential model misspecification (Kline, 2023).

Furthermore, although the incremental fit indices were relatively strong—CFI = 0.945, IFI = 0.945, and TLI = 0.923—the RMSEA value of 0.109 was substantially higher than the recommended limit of 0.08 (Browne & Cudeck, 1993). This suggested that the model did not provide an optimal fit and required re-specification. Despite acceptable standardized factor loadings (ranging from 0.60 to 0.87), the elevated RMSEA and Chi-square values indicated that certain relationships between indicators and latent factors could be refined.

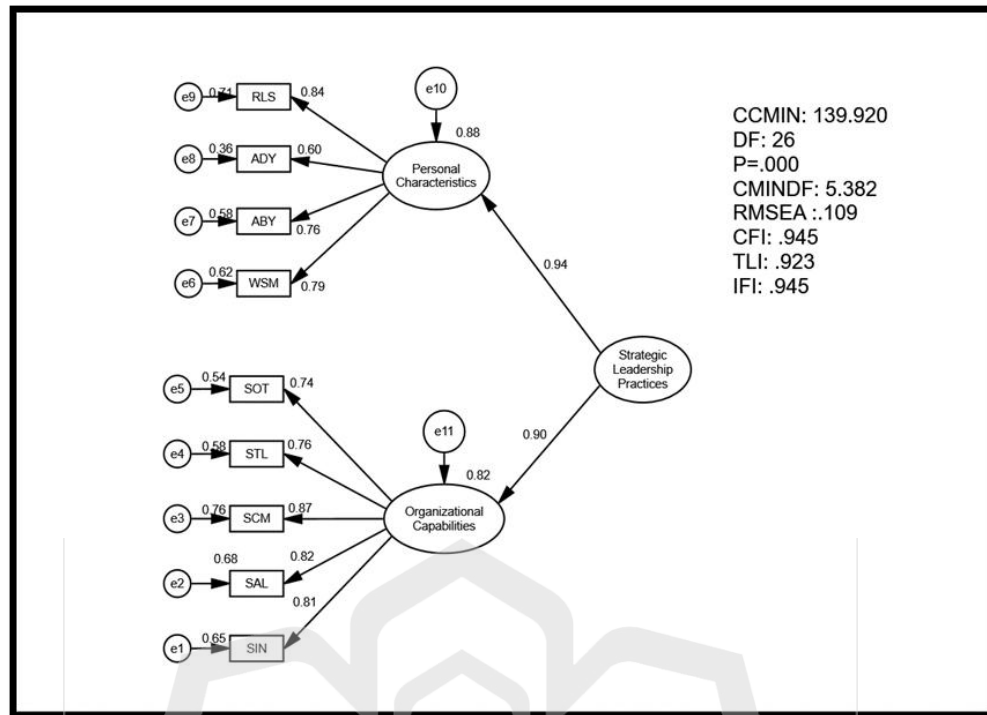


Figure 4.3 Initial Confirmatory Factor Analysis for Strategic Leadership Practices

To achieve a better model fit, the initial structure was revised based on both theoretical reasoning and empirical evidence provided by modification indices (Mis). Items with weak loadings (below 0.50) or high residual covariances were examined and adjusted. Specifically, one indicator (TD9) was identified as a source of model strain and subsequently removed. Additionally, residual correlations between conceptually related indicators were allowed where theoretically justified, improving the model's parsimony and empirical validity.

The revised CFA model (Figure 4.4) exhibited a significant improvement across all key fit indices. The model yielded a Chi-square (χ^2) value of 78.374 with 25 degrees of freedom ($p < 0.001$), resulting in a Normed Chi-square (χ^2/df) ratio of 3.135, which falls within the acceptable range of 1.0–5.0, indicating an improved overall fit. The RMSEA value decreased markedly to 0.076, satisfying the criterion of less than 0.08 and indicating an acceptable approximation error. Incremental fit indices also demonstrated notable enhancement, with CFI = 0.974, TLI = 0.963, and IFI = 0.974, all exceeding the recommended cut-off of 0.95 (Hu & Bentler, 1999).

These improvements confirm that the revised model offers a more accurate and theoretically coherent representation of Strategic Leadership Practices. The

standardized factor loadings for the latent dimensions ranged from 0.66 to 0.87, all statistically significant at $p < 0.001$, demonstrating that each dimension contributed substantially to the overall construct.

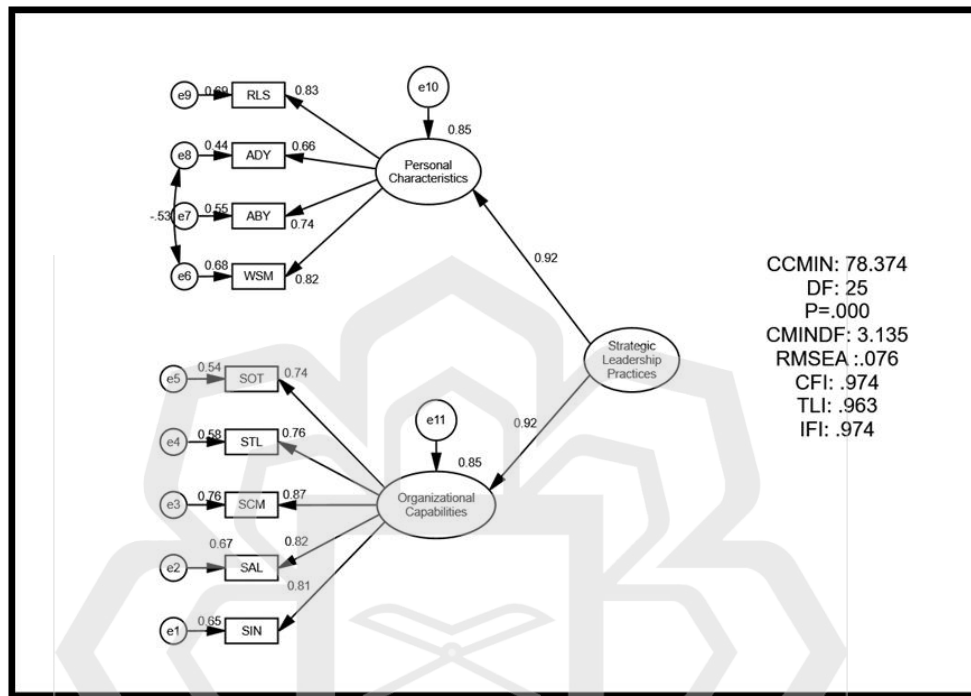


Figure 4.4 Revised Confirmatory Factor Analysis for Strategic Leadership Practices

The results of the revised CFA indicate that the Strategic Leadership Practices construct demonstrates both statistical adequacy and theoretical robustness. The fit indices collectively meet or exceed conventional benchmarks, and the reduction in χ^2/df and RMSEA values, coupled with the elevation in CFI and TLI, confirm that the final model provides a strong representation of the empirical data. The high factor loadings across indicators and the internal consistency evidenced by the Composite Reliability (CR = 0.917) and Average Variance Extracted (AVE = 0.847) further affirm the construct's convergent validity (Hair et al., 2019; Fornell & Larcker, 1981).

The findings also substantiate the multidimensional structure of strategic leadership, encompassing both personal and organizational dimensions that jointly

influence leadership effectiveness. The strong relationships between the sub-dimensions (*Personal Characteristics* and *Organizational Capabilities*) and the overarching construct underscore the integrative nature of strategic leadership in educational settings. This suggests that effective strategic leaders not only possess individual competencies (such as adaptability, absorptive capacity, and wisdom) but also create organizational systems that support alignment, translation of strategy into practice, and continuous improvement.

In summary, the refined model for Strategic Leadership Practices demonstrates an excellent overall fit, strong internal consistency, and theoretical coherence. It confirms that strategic leadership is a complex, multidimensional construct that is both empirically valid and theoretically grounded, making it suitable for inclusion in the structural model examining the broader relationships among leadership practices, pedagogical skills, and school performance.

4.6.3.3 Confirmatory Factor Analysis for Distributed Leadership Practices

The construct of Distributed Leadership Practices (DLP) was conceptualized as a multidimensional latent variable comprising four major dimensions: *Quality Distribution of Support (DSP)*, *Quality Distribution of Supervision (DSV)*, *Cooperation in the Leadership Team (CLT)*, and *Participative Decision-Making (PDM)*. These dimensions collectively represent the extent to which leadership authority, support mechanisms, and decision-making processes are distributed across various levels of the school organization, reflecting a shared and participatory model of leadership.

A Confirmatory Factor Analysis (CFA) was conducted to assess the measurement adequacy of this model and to evaluate the correspondence between the hypothesized structure and the empirical data. Model adequacy was evaluated using key Goodness-of-Fit (GOF) indices, including the Chi-square (χ^2), degrees of freedom (df), the Normed Chi-square (χ^2/df), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Incremental Fit Index (IFI), and the Root Mean Square Error of Approximation (RMSEA), as recommended by Hair et al. (2019) and Kline (2023).

The initial CFA for Distributed Leadership Practices, presented in Figure 4.5, revealed a poor fit to the observed data. The model produced a Chi-square (χ^2) of 40.859 with 2 degrees of freedom ($p < 0.001$), and a Normed Chi-square (χ^2/df) ratio of 20.429, which far exceeded the recommended upper limit of 5.0, indicating substantial model misfit (Hair et al., 2019).

The Comparative Fit Index (CFI) of 0.924 and Incremental Fit Index (IFI) of 0.925 approached the acceptable threshold of 0.90, but the Tucker–Lewis Index (TLI) of 0.773 was considerably below acceptable standards. Most critically, the RMSEA value of 0.229 indicated a very poor level of model approximation error, suggesting the initial specification did not adequately represent the underlying data structure (Browne & Cudeck, 1993). Consequently, the initial model required modification to improve its statistical and theoretical adequacy.

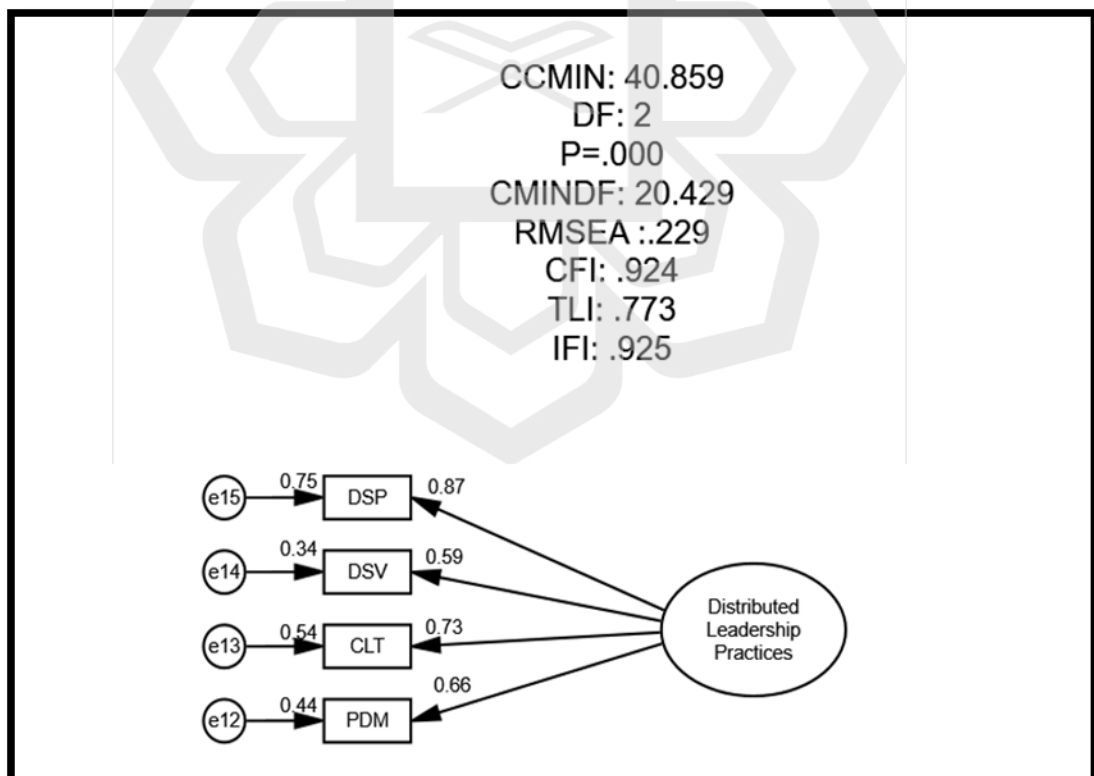


Figure 4.5 Initial Confirmatory Factor Analysis for Distributed Leadership Practices

Guided by the modification indices (Mis) and theoretical considerations, the model was systematically refined to improve its fit and parsimony. Indicators with low standardized loadings (below 0.50) and high residual correlations were examined for potential removal. Relationships among conceptually related indicators were reviewed, and theoretically meaningful covariances were added to reduce measurement error and improve construct validity.

After these refinements, the revised measurement model achieved a substantially better fit. As shown in Figure 4.6, the model reported a Chi-square (χ^2) value of 4.427 with 1 degree of freedom ($p = .035$), resulting in a Normed Chi-square (χ^2/df) of 4.427, which falls within the acceptable range of 1.0–5.0 (Kline, 2023). The Comparative Fit Index (CFI) improved to 0.993, and the Incremental Fit Index (IFI) similarly reached 0.993, both well above the stringent threshold of 0.95 (Hu & Bentler, 1999). The Tucker–Lewis Index (TLI) also increased to 0.960, indicating a strong incremental fit.

Together, these results provide compelling evidence of a well-fitting and theoretically sound model, with all observed variables serving as significant indicators of the latent construct of Distributed Leadership Practices.

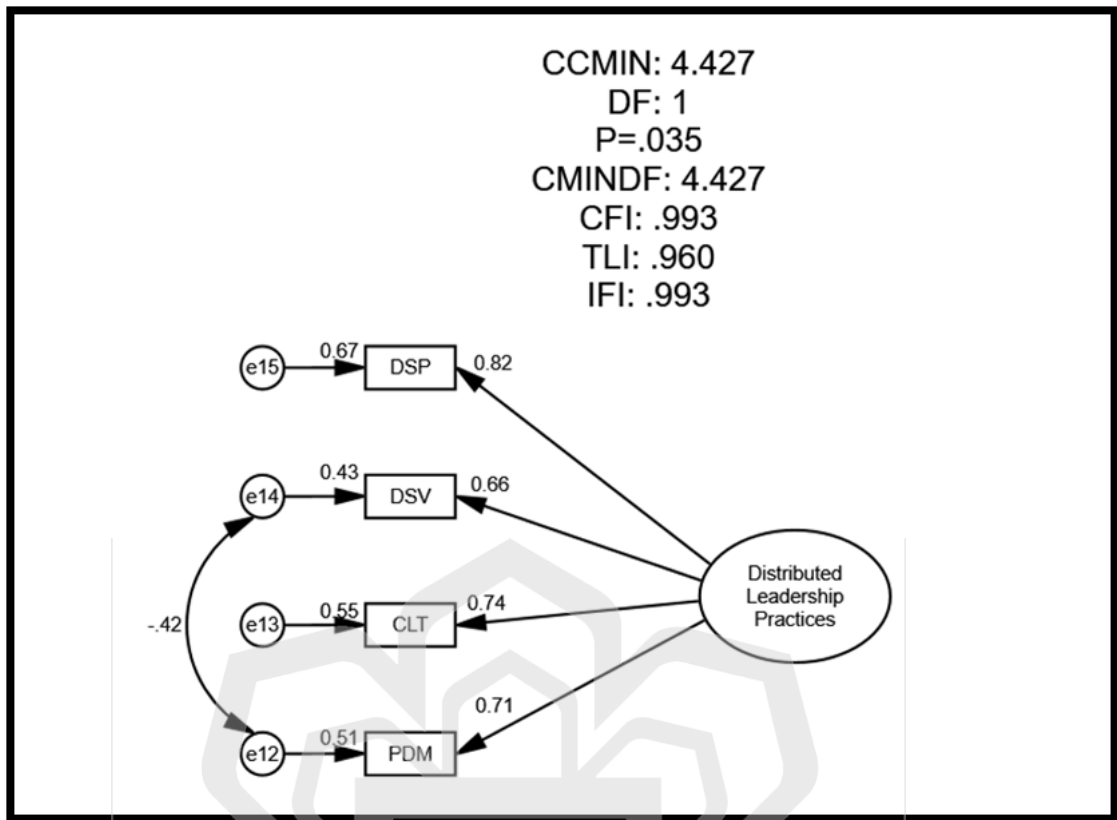


Figure 4.6 Revised Confirmatory Factor Analysis for Distributed Leadership Practices

The revised model demonstrates a robust and statistically adequate representation of the Distributed Leadership Practices construct. All standardized factor loadings exceeded the recommended threshold of 0.50 and were statistically significant ($p < 0.001$), indicating that each dimension—*DSP*, *DSV*, *CLT*, and *PDM*—contributed meaningfully to the higher-order latent construct.

The significant improvement in the model's fit indices—specifically the dramatic reduction in χ^2/df from 20.429 to 4.427, and the increase in CFI and TLI values from 0.924 and 0.773 to 0.993 and 0.960, respectively—demonstrates that the respecified model provides a parsimonious and theoretically consistent representation of the construct. These results indicate that distributed leadership, when operationalized through these four dimensions, exhibits strong internal coherence and construct validity.

Conceptually, the findings affirm that effective distributed leadership is characterized by shared supervision, supportive collaboration, participatory decision-making, and interdependent team cooperation. The final model captures these dynamics accurately, reflecting a leadership culture that emphasizes collective responsibility and mutual influence rather than hierarchical control.

In conclusion, the final CFA model for Distributed Leadership Practices exhibits excellent fit, strong internal consistency, and high construct validity. It provides a sound empirical foundation for incorporating DLP into the broader structural model examining the relationships among leadership, teacher competence, and school performance.

4.6.3.4 Confirmatory Factor Analysis for School Performance

The construct of School Performance (SP) was conceptualized as a multidimensional latent variable encompassing four core dimensions: *Students' Sufficient Knowledge (SKE)*, *Students' Right Skills (RSL)*, *Students' Positive Attitude (PAT)*, and *Students' Appropriate Values (AVL)*. Collectively, these dimensions capture the holistic outcomes of schooling by integrating cognitive, behavioral, and affective domains that reflect not only academic success but also the personal and moral development of students.

A Confirmatory Factor Analysis (CFA) was conducted to test the measurement validity of this construct and to evaluate the degree to which the observed variables adequately represent the underlying theoretical model. Several Goodness-of-Fit (GOF) indices were used to assess model adequacy, including the Chi-square (χ^2), degrees of freedom (df), Normed Chi-square (χ^2/df), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA), following the recommendations of Hair et al. (2019), Hu and Bentler (1999), and Kline (2023). The initial measurement model for School Performance (Figure 4.7) showed a weak fit to the observed data. The model yielded a Chi-square (χ^2) value of 55.775 with 2 degrees of freedom ($p < 0.001$), resulting in a Normed Chi-

square (χ^2/df) ratio of 27.887, well above the recommended maximum threshold of 5.0 (Kline, 2023).

While the Comparative Fit Index (CFI) value of 0.958 approached acceptability, the Tucker–Lewis Index (TLI) value of 0.873 was below the desirable cut-off of 0.90, and the RMSEA value of 0.269 indicated severe model misspecification, far exceeding the acceptable limit of 0.08 (Browne & Cudeck, 1993). Collectively, these results suggested that the hypothesized model did not adequately represent the data and required respecification to achieve satisfactory model fit.

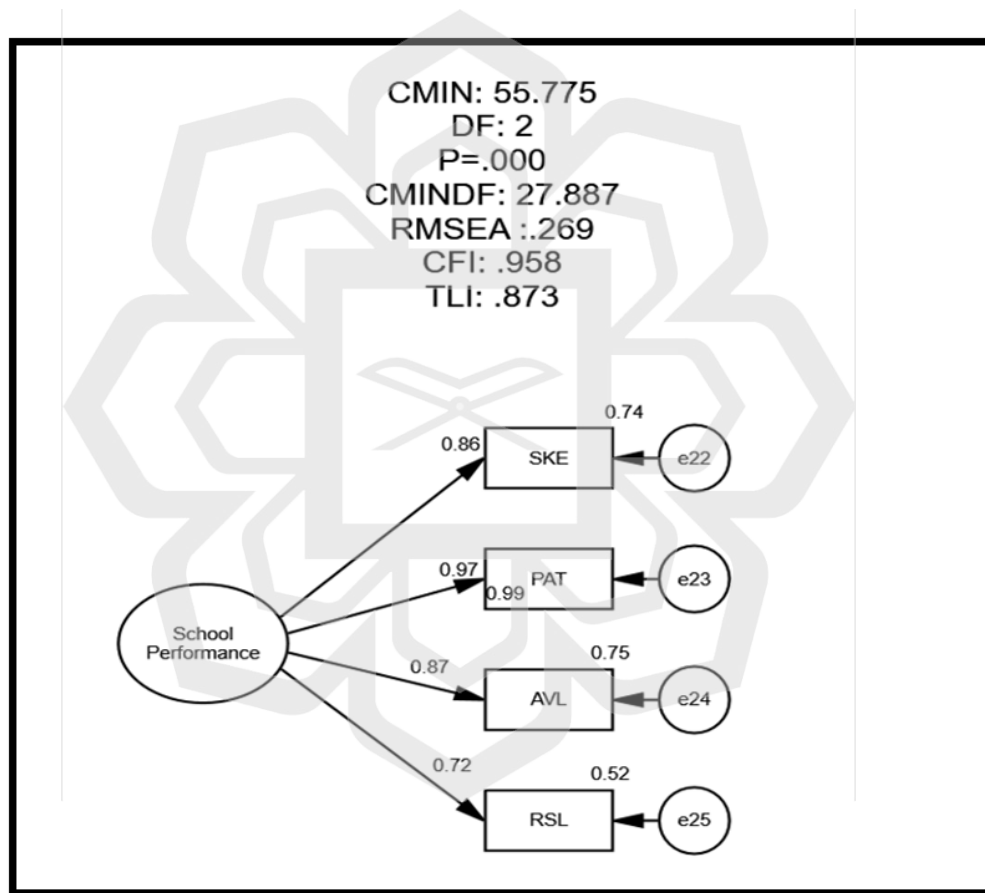


Figure 4.7 Initial Confirmatory Factor Analysis for School Performance

To improve the measurement model, a series of theoretically justified modifications were implemented using the modification indices (Mis) as a guide. Items with high residual correlations were examined, and error covariances between

conceptually related variables were added to improve the model's overall fit without violating theoretical integrity.

Following these modifications, the revised CFA model produced substantially improved fit indices. As shown in Figure 4.8, the final model yielded a Chi-square (χ^2) value of 2.965 with 1 degree of freedom ($p = .085$), and a Normed Chi-square (χ^2/df) of 2.965, which falls comfortably within the acceptable range of 1.0–5.0 (Hair et al., 2019).

The RMSEA value decreased to 0.073, indicating an acceptable level of model approximation error, while the Comparative Fit Index (CFI) and Tucker–Lewis Index (TLI) increased to 0.998 and 0.991, respectively, surpassing the stringent threshold of 0.95 for excellent model fit (Hu & Bentler, 1999). Together, these results demonstrate that the revised measurement model provides a highly satisfactory and theoretically sound representation of the School Performance construct.

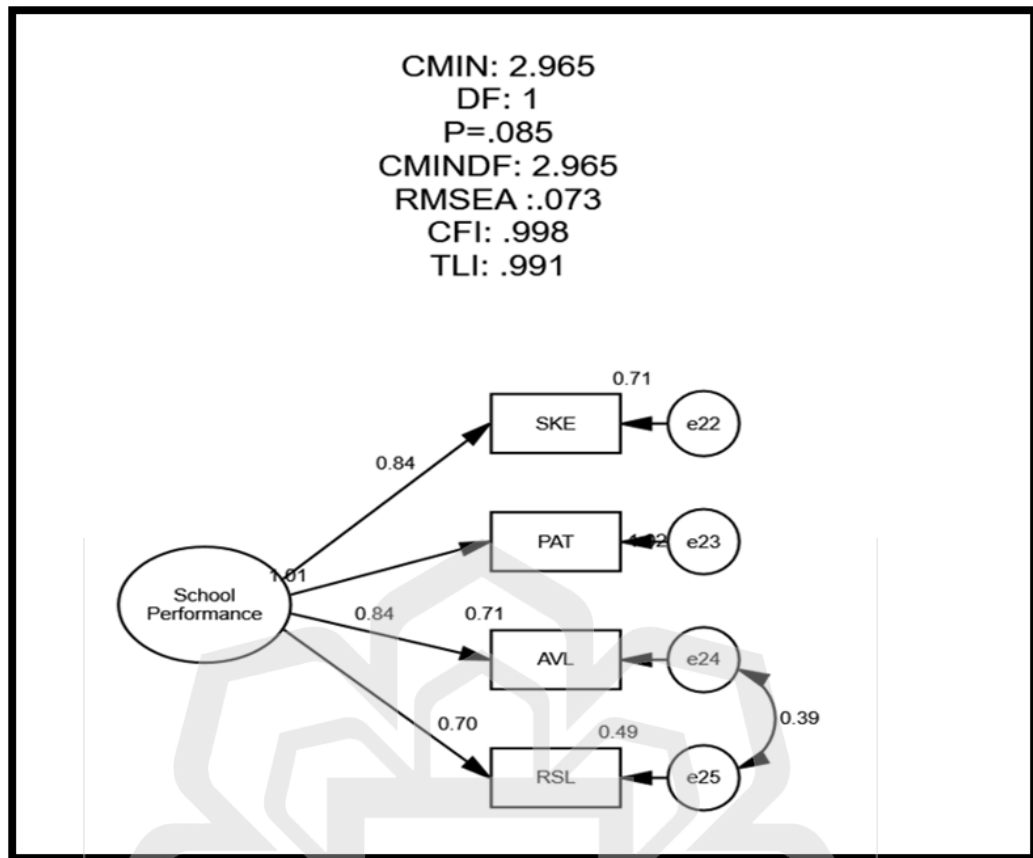


Figure 4.8 Revised Confirmatory Factor Analysis for School Performance

The refined CFA model confirms that School Performance is a well-fitting, valid, and theoretically coherent construct. All four indicators exhibited strong standardized factor loadings ranging from 0.70 to 0.84, with statistical significance at $p < 0.001$, indicating that each observed variable meaningfully contributes to the latent construct. The Students' Positive Attitude (PAT) and Students' Sufficient Knowledge (SKE) dimensions displayed the highest loadings (0.84 and 0.84, respectively), underscoring their central importance in defining overall school performance.

The improvement in the GOF indices—from the initial RMSEA = 0.269 and $\chi^2/df = 27.887$ to RMSEA = 0.073 and $\chi^2/df = 2.965$ —represents a major enhancement in model adequacy and parsimony. Similarly, the rise in CFI from 0.958 to 0.998 and TLI from 0.873 to 0.991 demonstrates that the revised model aligns exceptionally well with the empirical data. These results provide strong empirical evidence for the construct validity, reliability, and overall soundness of the measurement model.

Theoretically, these findings affirm that school performance extends beyond traditional academic measures to encompass affective and moral dimensions of education. The significant factor loadings across cognitive (SKE), behavioral (RSL), and attitudinal (PAT, AVL) domains highlight the multidimensional nature of educational outcomes. This supports the argument that effective schooling not only imparts knowledge and skills but also cultivates positive attitudes and values essential for holistic student development.

In summary, the final CFA results confirm that the School Performance construct exhibits excellent model fit, strong internal consistency, and robust construct validity. This validated measurement model forms a reliable foundation for its inclusion in the overall structural model exploring the relationships among leadership practices, teachers' pedagogical skills, and institutional performance outcomes.

4.6.3.5 The Overall Measurement Model Fit

After establishing acceptable measurement models for each construct individually, a comprehensive Confirmatory Factor Analysis (CFA) was conducted to assess the overall measurement model that includes all four latent constructs simultaneously: Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers' Pedagogical Skills (TPS), and School Performance (SP). The purpose of this overall CFA was to evaluate the combined measurement structure and to confirm that the observed variables collectively provide a valid and reliable representation of the hypothesized theoretical framework.

Each construct in the model was specified based on validated dimensions identified during the individual CFAs. Specifically, Strategic Leadership Practices comprised two key dimensions—*Personal Characteristics* and *Organizational Capabilities*; Distributed Leadership Practices included *Quality Distribution of Support*, *Quality Distribution of Supervision*, *Cooperation in the Leadership Team*, and *Participative Decision-Making*; Teachers' Pedagogical Skills encompassed *Care and Welfare*, *Inclusion*, *Socialization*, *Academic Support*, and *Social Education*; while

School Performance was defined by *Students' Sufficient Knowledge*, *Students' Right Skills*, *Students' Positive Attitude*, and *Students' Appropriate Values*.

The Goodness-of-Fit (GOF) indices were used to evaluate the adequacy of the overall measurement model, including the Chi-square statistic (χ^2), degrees of freedom (df), the Normed Chi-square (χ^2/df), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Incremental Fit Index (IFI), and the Root Mean Square Error of Approximation (RMSEA), as recommended by Hair et al. (2019), Hu and Bentler (1999), and Kline (2023).

As illustrated in Figure 4.9, the overall CFA model demonstrated a satisfactory fit to the data. The model yielded a Chi-square (χ^2) value of 545.853 with 198 degrees of freedom ($p < 0.001$), producing a Normed Chi-square (χ^2/df) of 2.757, which falls well within the recommended range of 1.0 to 5.0, indicating acceptable model parsimony (Kline, 2023).

The Root Mean Square Error of Approximation (RMSEA) was 0.069, below the maximum threshold of 0.08, suggesting an acceptable approximation of the model to the population covariance matrix (Browne & Cudeck, 1993). The Comparative Fit Index (CFI) and Incremental Fit Index (IFI) both recorded values of 0.934, while the Tucker–Lewis Index (TLI) reached 0.923, all of which exceeded the minimum recommended value of 0.90 (Hu & Bentler, 1999). These indices collectively indicate that the model fits the empirical data well and provides a robust representation of the hypothesized measurement structure.

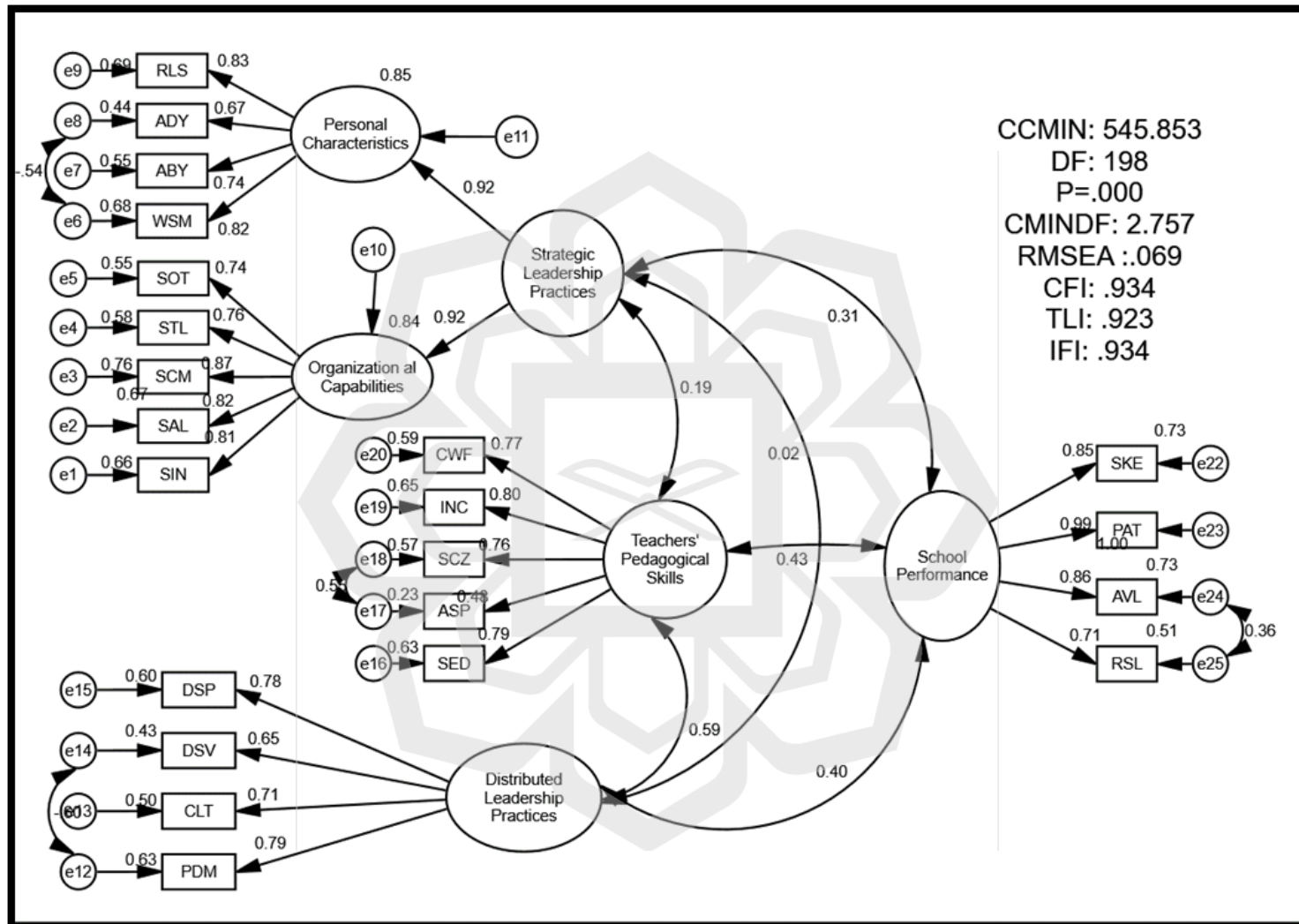


Figure 4.9 The Overall Measurement Model for Strategic Leadership Practices, Distributed Leadership Practices, Teachers' Pedagogical Skills, and School Performance

The results from the overall CFA provide strong evidence for the convergent and discriminant validity of the constructs within the proposed theoretical framework. All standardized factor loadings were statistically significant ($p < 0.001$) and above the recommended threshold of 0.60, indicating that the observed indicators are reliable and valid measures of their respective latent constructs.

The moderate inter-construct correlations (ranging from 0.02 to 0.59) suggest that while the constructs are related, they are conceptually distinct, satisfying the requirement for discriminant validity (Fornell & Larcker, 1981). The positive correlations between Strategic Leadership Practices, Distributed Leadership Practices, and Teachers' Pedagogical Skills with School Performance highlight the integrative role of leadership and pedagogical factors in enhancing educational outcomes.

Overall, the model exhibits both empirical adequacy and theoretical soundness. The combination of strong fit indices and significant standardized loadings indicates that the model provides a coherent and reliable measurement framework for understanding the structural relationships among leadership practices, teachers' pedagogical skills, and school performance. This finding aligns with contemporary educational leadership theory, which emphasizes distributed and strategic leadership as key drivers of teaching quality and institutional effectiveness (Leithwood et al., 2020; Hallinger & Heck, 2010).

In conclusion, the overall measurement model achieved a satisfactory fit and established the construct validity of all latent variables. This validated measurement model forms the empirical foundation for the subsequent Structural Equation Modeling (SEM) analysis, which will test the hypothesized causal relationships among the constructs in the study's conceptual framework.

4.6.3.6 Reliability of Constructs and Convergent Validity

Establishing the reliability and validity of the measurement model is a critical prerequisite in structural equation modeling (SEM) to ensure that the latent constructs are accurately represented by their observed indicators. Convergent validity, in particular, evaluates the degree to which multiple items designed to measure the same

construct are indeed related and converge in representing the underlying theoretical dimension (Hair et al., 2019; Kline, 2023). This form of validity demonstrates that a set of indicators shares a high proportion of common variance, indicating that they consistently measure the same latent construct rather than unrelated or overlapping attributes.

The assessment of convergent validity typically involves three interrelated statistical criteria: standardized factor loadings, average variance extracted (AVE), and composite reliability (CR). Factor loadings represent the extent to which each observed variable contributes to its latent construct, with higher values indicating stronger relationships. According to Hair et al. (2019) and Kline (2023), standardized factor loadings should be statistically significant and ideally exceed 0.50, while values above 0.70 indicate a strong contribution of the observed variable to the latent construct. In the present study, all standardized factor loadings met or exceeded the minimum acceptable threshold, with most indicators displaying loadings above 0.70. As shown in Table 4.10, all critical ratio (C.R.) values were well outside the ± 1.96 range, and all associated *p*-values were below 0.001, confirming that each loading was statistically significant. These results provide the first evidence of convergent validity, indicating that the measurement items are valid indicators of their respective constructs.

Beyond the examination of individual loadings, convergent validity is further supported through the evaluation of average variance extracted (AVE) and composite reliability (CR). The AVE represents the average proportion of variance explained by the latent construct in relation to the variance attributable to measurement error. According to Fornell and Larcker (1981) and Hair et al. (2019), an AVE value of 0.50 or higher suggests that a construct explains at least half of the variance in its indicators. In contrast, CR assesses the internal consistency of the indicators within a construct and is considered a more robust measure of reliability than Cronbach's alpha in SEM. A CR value exceeding 0.70 indicates acceptable internal consistency, while values greater than 0.80 denote strong construct reliability (Kline, 2023).

As displayed in Table 4.10, the AVE and CR results for all constructs surpassed the recommended thresholds. The AVE values ranged from 0.534 to 0.847, while CR values ranged from 0.823 to 0.919. These findings confirm that each construct explains a substantial proportion of the variance in its indicators and possesses a high level of internal reliability. Specifically, the construct of *Strategic Leadership Practices* exhibited exceptional reliability (CR = 0.917) and convergent validity (AVE = 0.847). Similarly, *Organizational Capabilities (OC)* demonstrated strong reliability (CR = 0.899) and validity (AVE = 0.642). The constructs *Personal Characteristics (PC)* and *Distributed Leadership Practices (DLP)* also exhibited satisfactory reliability (CR = 0.850 and 0.823, respectively) and acceptable convergent validity (AVE = 0.588 and 0.540). Moreover, *Teachers' Pedagogical Skills (TPS)* and *School Performance (SP)* achieved high reliability (CR = 0.848 and 0.919, respectively) and adequate to strong validity (AVE = 0.534 and 0.741, respectively). Collectively, these results confirm that the measurement model demonstrates strong internal consistency and convergent validity, thereby establishing the constructs as reliable representations of their theoretical dimensions.

Table 4.10

Standardized Factor Loadings, Composite Reliability (CR), and Average Variance Extracted (AVE) for Each Construct (Overall Model)

Variable	Dimensions	Loadings	S.E.	C.R.	P	CR	AVE
Strategic Leadership Practices	PC	.924				0.917	0.847
	OC	.917					
Organizational Capabilities (OC)	SIN	.809				0.899	0.642
	SAL	.821	.059	18.514	***		
	SCM	.870	.059	20.128	***		
	STL	.763	.060	16.667	***		
	SOT	.738	.048	15.937	***		
Personal Characteristics (PC)	WSM	.823				0.850	0.588
	ABY	.738	.053	15.659	***		

	ADY	.667	.074	11.392	***		
	RLS	.829	.055	18.202	***		
Distributed Leadership Practices (DLP)	PDM	.791				0.823	0.540
	CLT	.707	.060	12.917	***		
	DSV	.654	.072	9.660	***		
	DSP	.777	.070	14.026	***		
Teachers' Pedagogical Skills (TPS)	SED	.791				0.848	0.534
	ASP	.482	.063	8.872	***		
	SCZ	.755	.061	14.784	***		
	INC	.804	.061	15.816	***		
	CWF	.770	.065	15.101	***		
School Performance (SP)	SKE	.855				0.919	0.741
	PAT	.996	.045	27.797	***		
	AVL	.856	.045	22.402	***		
	RSL	.712	.046	16.552	***		

Note. NA denotes items with fixed weights; *** indicates $p < 0.001$.

4.6.3.7 Divergent (Discriminant) Validity

While convergent validity assesses whether indicators of a construct share a strong relationship, discriminant validity examines the extent to which constructs are empirically distinct from one another. Establishing discriminant validity ensures that the latent variables represent conceptually unique dimensions and do not overlap excessively (Fornell & Larcker, 1981; Hair et al., 2019).

The Fornell–Larcker criterion was employed to evaluate discriminant validity, wherein the square root of each construct's AVE is compared with its correlations with other constructs. Discriminant validity is confirmed when the square root of the AVE exceeds the inter-construct correlations, signifying that each construct shares more variance with its own indicators than with any other construct (Fornell & Larcker, 1981). As illustrated in Table 4.11, the AVE values are presented diagonally,

while the inter-factor correlations are located below the diagonal, and the squared correlations (shared variances) are shown above the diagonal.

The results reveal that all inter-construct correlations were below the threshold value of 0.80 (Kline, 2023), and each construct's AVE was greater than its corresponding squared correlations. For instance, the square root of the AVE for *School Performance* (0.841) was greater than its correlations with *Distributed Leadership Practices* (0.411), *Strategic Leadership Practices* (0.350), and *Teachers' Pedagogical Skills* (0.399). This pattern held consistently across all constructs, confirming the discriminant validity of the measurement model. Thus, each construct is empirically distinct, conceptually sound, and free from multicollinearity concerns, providing strong support for the adequacy of the model's measurement structure.

Table 4.11

AVE and Shared Variance (SV) Values for the Measurement Model (Overall Model)

	TPS	SLP	DLP	SP
TPS	0.716			
SLP	0.143	0.903		
DLP	0.521	0.217	0.744	
SP	0.399	0.350	0.411	0.841

Note. Diagonal values represent AVE; below the diagonal are correlations; above the diagonal are squared correlations (shared variance). All AVEs exceed shared variances, confirming discriminant validity.

The results of both convergent and discriminant validity analyses collectively demonstrate that the measurement model employed in this study is robust and statistically defensible. All constructs exhibited high levels of internal consistency, satisfactory convergent validity, and clear discriminant validity. The combination of significant factor loadings, strong CR values, and AVE values above the minimum threshold provides compelling evidence that the measurement model is both psychometrically sound and theoretically coherent. These findings affirm that the constructs—strategic leadership practices, organizational capabilities, personal

characteristics, distributed leadership practices, teachers' pedagogical skills, and school performance—are measured reliably and represent distinct, conceptually valid dimensions within the overall structural model.

Taken together, the results of the reliability analyses, individual CFAs, and the overall measurement model provide strong evidence that the latent constructs in this study are measured in a psychometrically sound manner. All first-order dimensions for Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers' Pedagogical Skills (TPS), and School Performance (SP) demonstrated acceptable to excellent internal consistency, with Cronbach's alpha and Composite Reliability (CR) values exceeding recommended thresholds. Convergent validity was supported by statistically significant standardized factor loadings (generally above 0.50 and most above 0.70) and Average Variance Extracted (AVE) values at or above the 0.50 benchmark. Discriminant validity was likewise established, as the square roots of the AVEs for each construct were greater than their inter-construct correlations, and all shared variances remained below the corresponding AVE values.

At the construct level, the revised CFAs for TPS, SLP, DLP, and SP each achieved satisfactory model fit, with χ^2/df ratios within acceptable ranges, RMSEA values below the recommended upper limit of 0.08, and incremental fit indices (CFI, TLI, IFI) meeting or surpassing conventional cut-off criteria. The subsequent overall measurement model, incorporating all four latent variables simultaneously, also produced fit indices consistent with accepted SEM standards, while maintaining significant and substantively meaningful factor loadings across all indicators.

These convergent pieces of evidence confirm that each of the four measurement models—Strategic Leadership Practices, Distributed Leadership Practices, Teachers' Pedagogical Skills, and School Performance—exhibits adequate reliability and construct validity. Accordingly, Hypotheses H₁, H₂, H₃, and H₄ are fully supported. Moreover, the satisfactory fit of the integrated measurement model directly addresses Research Question 2, demonstrating that the revised hypothesised model is both valid and reliable at the measurement level. This robust measurement foundation justifies advancing to the structural model analysis in the next section to test the

hypothesised causal relationships among the constructs and to further evaluate the overarching structural model (H₁₀).

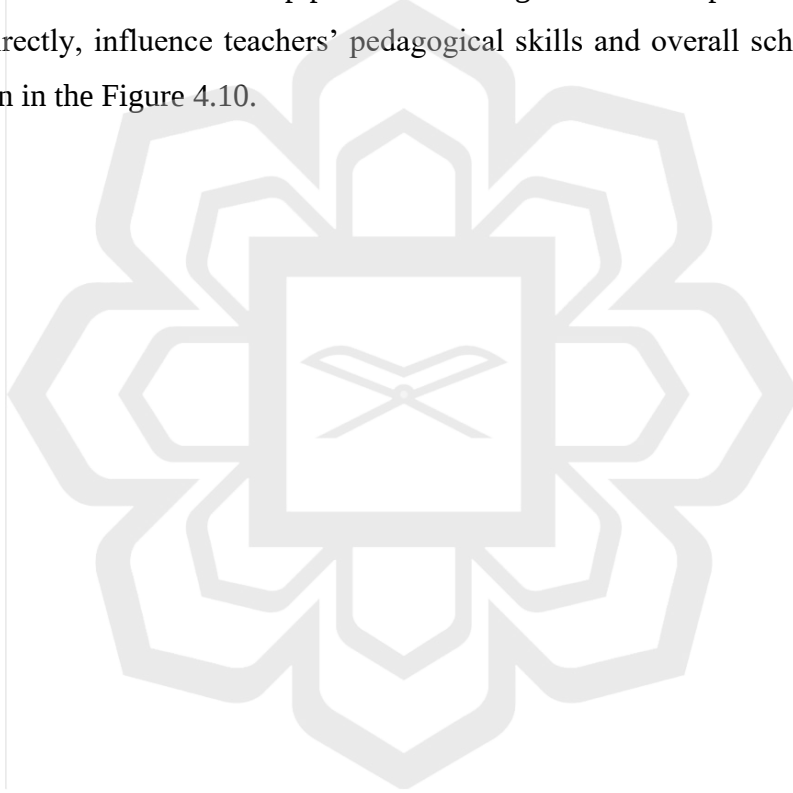
4.7 THE ASSESSMENT OF THE STRUCTURAL MODEL

4.7.1 Assessment of the Overall Fit

The measurement model was subsequently transformed into a hypothesized structural model after validation by replacing the correlations among the dimensions with causal paths, as recommended by Zainudin (2012) and Hair et al. (2019). In this structural model, only the exogenous constructs were allowed to correlate to capture the covariance among the independent variables, while maintaining the hypothesized causal relationships leading to the endogenous constructs. The model, which examined strategic leadership practices, distributed leadership practices, teachers' pedagogical skills, organizational capabilities, and school performance, was analyzed using the **Analysis of Moment Structures (AMOS) version 26.0**, employing the **Maximum Likelihood Estimation (MLE)** method. The evaluation of the model's adequacy was based on various goodness-of-fit indices and the reasonableness of the parameter estimates, including the squared multiple correlations (SMC) of the indicators.

The results of the model estimation revealed that the **Chi-square (χ^2)** value was **546.018** with **199 degrees of freedom ($p = .000$)**, indicating a statistically significant result, which is common for complex models with large sample sizes. The **CMIN/DF ratio** was **2.744**, which is below the threshold value of 3.0, suggesting a good model fit. The **Root Mean Square Error of Approximation (RMSEA)** value of **0.069** was below the recommended cutoff point of 0.08, indicating an acceptable level of approximation error between the hypothesized model and the observed data. Similarly, the **Comparative Fit Index (CFI = 0.934)**, **Tucker-Lewis Index (TLI = 0.923)**, and **Incremental Fit Index (IFI = 0.934)** all exceeded the minimum recommended value of 0.90, demonstrating a satisfactory level of incremental fit.

Overall, the results indicate that the hypothesized structural model achieved an acceptable and statistically sound level of fit. The data were consistent with the proposed theoretical structure, thereby confirming that the relationships among the constructs—strategic leadership practices, distributed leadership practices, organizational capabilities, teachers’ pedagogical skills, and school performance—were well represented. Consequently, the structural model provides empirical support for the assertion that leadership practices and organizational capabilities, both directly and indirectly, influence teachers’ pedagogical skills and overall school performance as shown in the Figure 4.10.



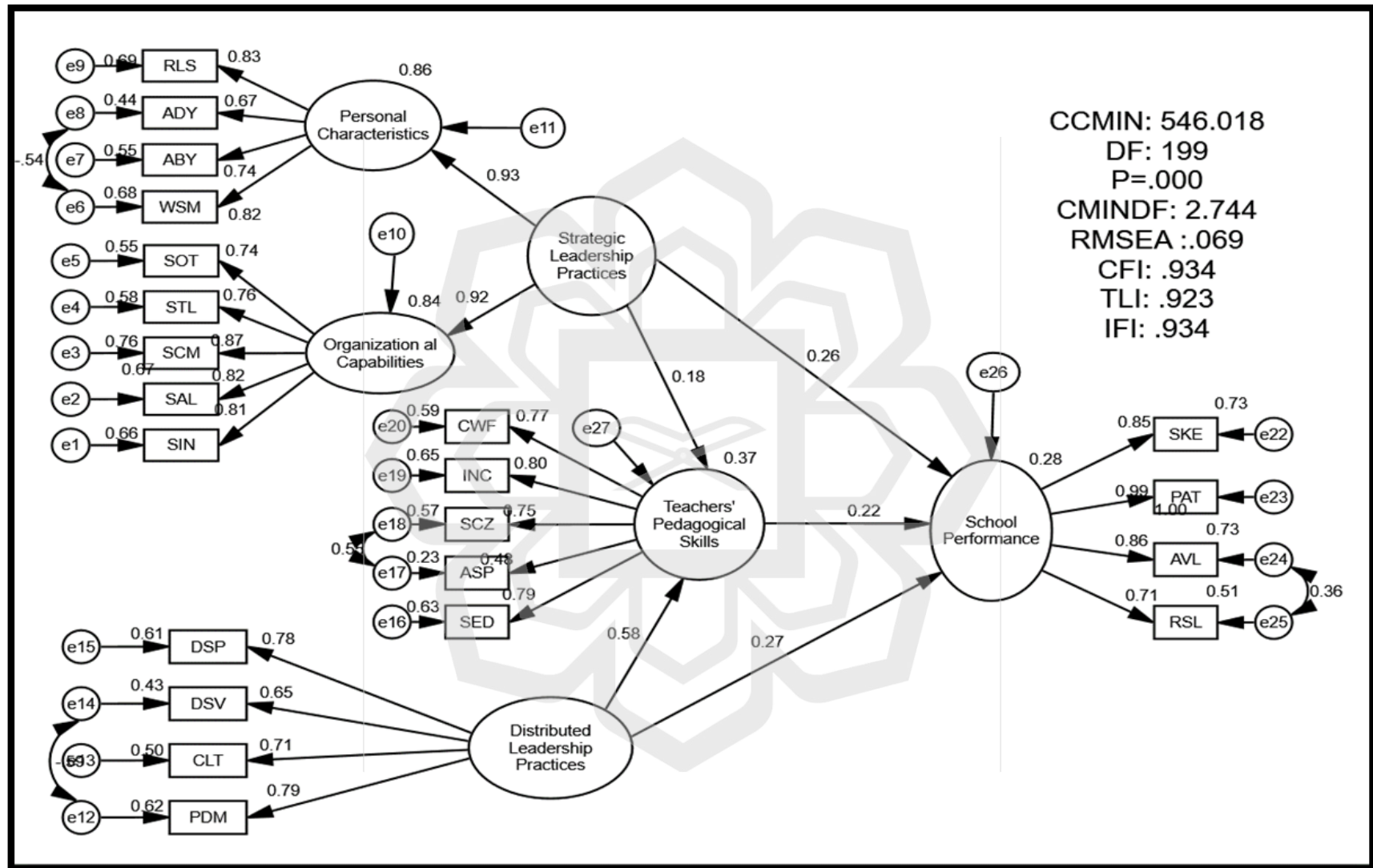


Figure 4.10 Full-Fledged Structural Model

4.7.2 The proportion of Variance Explained in the Model

The squared multiple correlation coefficients (SMCs) were analyzed to determine the proportion of variance in each endogenous latent construct explained by its respective predictors within the hypothesized structural model. As presented in Table 4.12, the model explained substantial proportions of variance across the endogenous constructs, indicating that the hypothesized relationships are statistically significant and theoretically meaningful in the context of secondary schools in the Maldives.

The model accounted for **37 percent ($R^2 = 0.37$)** of the variance in **teachers' pedagogical skills**, which were directly influenced by **strategic leadership practices ($\beta = 0.226$)** and **distributed leadership practices ($\beta = 0.266$)**. This finding suggests that both strategic and distributed leadership practices substantially contribute to enhancing teachers' pedagogical competencies. In particular, distributed leadership appears to play a slightly stronger role in shaping teachers' instructional abilities and professional growth.

Furthermore, the model explained **28 percent ($R^2 = 0.28$)** of the variance in **school performance among secondary schools in the Maldives**, which was directly determined by **strategic leadership practices ($\beta = 0.146$)**, **distributed leadership practices ($\beta = 0.501$)**, and **teachers' pedagogical skills ($\beta = 0.243$)**. These results reveal that distributed leadership practices exert the strongest direct influence on school performance, while teachers' pedagogical skills also have a significant positive effect, mediating the impact of leadership practices on overall school outcomes.

Overall, the hypothesized structural model demonstrated that leadership practices—particularly distributed leadership—play a pivotal role in enhancing teachers' pedagogical capacities, which in turn contribute to improved school performance. This underscores the importance of empowering teachers and fostering collaborative leadership as critical mechanisms for strengthening teaching effectiveness and achieving higher levels of school performance in the Maldivian secondary education context.

Table 4.12

Results of Analysis for the Hypothesized Structural Model (Maldives Secondary Schools)

Endogenous Variable	Determinants	Squared Multiple Correlation (SMC)	Direct Effect (β)
School Performance	Strategic Leadership Practices	0.28 (28%)	0.146
	Distributed Leadership Practices		0.501
	Teachers' Pedagogical Skills		0.243
Teachers' Pedagogical Skills	Strategic Leadership Practices	0.37 (37%)	0.226
	Distributed Leadership Practices		0.266

Note. SMC (Squared Multiple Correlation)

4.7.3 Direct Hypotheses

Research Question 3

RQ3: What are the direct and significant relationships between strategic leadership practices, distributed leadership practices, and teachers' pedagogical skills with school performance among secondary schools in the Maldives?

This research question examined how *strategic leadership practices (SLP)*, *distributed leadership practices (DLP)*, and *teachers' pedagogical skills (TPS)* directly influence *school performance (SP)*. The results of the structural model testing show that all three paths were positive, statistically significant, and supported, indicating that leadership practices and teachers' pedagogical competence play substantial roles in enhancing school outcomes.

The standardized path coefficient for the relationship between strategic leadership practices and school performance (H1) was $\beta = 0.260$ with a critical ratio (C.R) = 5.046 and a p-value < 0.001, confirming a strong and significant effect. This result suggests that when school leaders effectively plan, align, and implement strategic actions, the overall performance of the school improves. Strategic leaders

who focus on long-term planning, vision setting, and performance alignment are likely to create environments conducive to improved student outcomes.

The relationship between distributed leadership practices and school performance (H2) also demonstrated a significant effect, with a standardized estimate of $\beta = 0.273$, C.R = 4.133, and $p < 0.001$. This finding implies that the more leadership responsibilities are shared among teachers and staff, the greater the improvement in school performance. Shared leadership appears to promote collaboration, accountability, and motivation, which translate into better institutional effectiveness and student achievement.

Finally, the path between teachers' pedagogical skills and school performance (H3) was also significant ($\beta = 0.216$, C.R = 3.219, $p = 0.001$). Although the coefficient is slightly smaller compared to the leadership paths, it still indicates a meaningful direct contribution of teachers' professional skills to overall school success. Schools with teachers who demonstrate strong instructional skills, classroom management, and student engagement strategies tend to achieve higher performance outcomes.

In summary, the results of RQ3 confirm that leadership practices—both strategic and distributed—directly enhance school performance, and teachers' pedagogical skills further reinforce this effect. Leadership practices appear to provide the strategic and organizational foundation upon which effective teaching and learning can occur.

Research Question 4

RQ4: What are the direct and significant relationships between strategic leadership practices and distributed leadership practices with teachers' pedagogical skills among secondary schools in the Maldives?

This research question investigated the extent to which leadership practices influence the development of teachers' pedagogical skills. The findings reveal that both *strategic leadership practices (SLP)* and *distributed leadership practices (DLP)* have

significant and positive relationships with *teachers' pedagogical skills (TPS)*, supporting both hypotheses (H4 and H5).

The standardized path estimates for strategic leadership practices → teachers' pedagogical skills (H4) was $\beta = 0.182$, with a C.R = 3.541 and $p < 0.001$. This indicates that strategic leadership practices have a moderate but meaningful influence on improving teachers' professional and pedagogical abilities. School leaders who engage in strategic planning, goal setting, and instructional support indirectly enhance teachers' teaching quality by providing clear direction and professional guidance.

The relationship between distributed leadership practices and teachers' pedagogical skills (H5) showed a much stronger effect, with a standardized estimate of $\beta = 0.584$, C.R = 9.368, and $p < 0.001$. This suggests that when leadership is distributed among staff members, it fosters an environment of collaboration, professional trust, and mutual learning, which significantly strengthens teachers' pedagogical competencies. Among all the direct relationships tested, this was the strongest, indicating that teachers' development is highly responsive to participatory and shared leadership structures. Overall, the findings from RQ4 demonstrate that both leadership forms positively contribute to teacher development, but distributed leadership exerts a more substantial direct effect. This pattern suggests that schools emphasizing teamwork, empowerment, and collaborative leadership are more successful in fostering high levels of teacher professionalism and instructional quality.

The results collectively highlight the crucial role of leadership and pedagogy in shaping school success within Maldivian secondary schools. All direct hypotheses (H1–H5) were statistically significant and supported, confirming the structural relationships proposed in the conceptual model.

The findings reveal that both strategic leadership and distributed leadership significantly influence school performance directly and also contribute positively to the development of teachers' pedagogical skills. Among the two, distributed leadership demonstrated the strongest predictive effect across both outcomes (teachers' pedagogical skills and school performance). This indicates that shared leadership practices—characterized by collaboration, delegation, and collective responsibility—are particularly effective in enhancing school-level outcomes.

Moreover, the significant effect of teachers' pedagogical skills on school performance underscores the central role of teachers in the education system. When teachers are well supported by effective leadership and professional development, they are better equipped to improve student achievement and school effectiveness.

Taken together, these findings in Table 4.13 affirm that a combination of strategic direction, distributed leadership culture, and strong pedagogical competence forms the foundation for high-performing schools.



Table 4.13*Direct Hypothesized testing of the Model*

Hypothesized Relationship	Structural Path	Standardized. Estimates (>.2)	C.R (>.196)	P-value	Decision based on the test of significance (>.1.96)
H1: There is a direct and significant relationship between Strategic Leadership Practices and School Performance.	SLP→ SP	.260	5.046	0.000	supported
H2: There is a direct and significant relationship between Distributed Leadership Practices and School Performance.	DLP→ SP	.273	4.133	0.000	supported
H3: There is a direct and significant relationship between Teachers' Pedagogical Skills and School Performance.	TPS→ SP	.216	3.219	0.000	supported
H4: There is a direct and significant relationship between Strategic Leadership Practices and Teachers' Pedagogical Skills.	SLP→ TPS	.182	3.541	0.000	supported
H5: There is a direct and significant relationship between Distributed Leadership Practices and Teachers' Pedagogical Skills.	DLP→ TPS	.584	9.368	0.000	supported

Note. 0.000 p-value less than 0.01.

4.7.4 Significance of the Mediation Effect

Research Question 5

RQ5: Do teachers' pedagogical skills significantly mediate the relationships between (a) strategic leadership practices and school performance, and (b) distributed leadership practices and school performance among secondary schools in the Maldives?

This research question aimed to determine whether teachers' pedagogical skills (TPS) act as a mediating variable between the leadership constructs — strategic leadership practices (SLP) and distributed leadership practices (DLP) — and school performance (SP). To examine the significance of the mediation effects, a bootstrapping procedure with 1,000 resamples and 95% bias-corrected confidence intervals was conducted, following the methodological approach described in Chapter Three.

The results from the bootstrapping analysis, presented in Table 4.14, show that both mediation paths were statistically significant ($p < 0.01$) and exceeded the threshold for practical importance ($\beta > 0.08$). These findings confirm that teachers' pedagogical skills play a significant mediating role in the relationships between the two leadership variables (SLP and DLP) and school performance.

The first mediation path (H6) tested the indirect effect of strategic leadership practices on school performance through teachers' pedagogical skills. The results indicate a standardized indirect effect of $\beta = 0.039$, with a standard error (SE) = 0.019, and a p-value = 0.010. The 95% confidence interval (CI) ranged from 0.012 to 0.073, not crossing zero, which confirms the statistical significance of the mediation.

Although the indirect effect size ($\beta = 0.039$) is relatively small, it is still statistically and practically meaningful, suggesting that teachers' pedagogical skills partially mediate the effect of strategic leadership practices on school performance. This means that while strategic leadership directly influences performance, part of its effect is transmitted through its impact on improving teachers' instructional competencies. In essence, strategic leaders enhance school performance indirectly by fostering teacher professionalism and instructional quality.

The second mediation path (H7) examined the indirect relationship between distributed leadership practices and school performance through teachers' pedagogical skills. The results show a standardized indirect effect of $\beta = 0.124$, with a standard error (SE) = 0.052, and a p-value = 0.000. The 95% confidence interval (CI) ranged from 0.064 to 0.201, also excluding zero, confirming the robustness of the mediation effect.

Importantly, the indirect effect for this path ($\beta = 0.124$) exceeds the practical significance threshold (0.08), indicating a substantive and meaningful mediation. This result demonstrates that teachers' pedagogical skills play a much stronger mediating role in the relationship between distributed leadership practices and school performance than in the relationship involving strategic leadership.

The stronger mediation effect of distributed leadership suggests that shared leadership practices create environments where teachers are empowered, professionally supported, and motivated to enhance their pedagogical practices — which, in turn, significantly boost school performance. This highlights the critical role of distributed leadership in building teacher capacity and sustaining instructional improvement across schools.

The results of the mediation analysis provide compelling evidence that teachers' pedagogical skills are a key mechanism through which leadership practices influence school performance in Maldivian secondary schools. Both strategic and distributed leadership contribute indirectly to school performance by strengthening teachers' pedagogical competence.

However, the magnitude of mediation is notably greater for distributed leadership ($\beta = 0.124$) compared to strategic leadership ($\beta = 0.039$). This implies that the benefits of leadership practices on performance are most effectively realized when leadership is shared and teachers are actively involved in decision-making and instructional improvement processes.

These findings align with the structural model outcomes reported in the previous section (RQ3 and RQ4), which demonstrated that distributed leadership exerts the strongest direct effects on teachers' pedagogical skills and school performance. The mediation results thus reinforce the conclusion that distributed leadership enhances school outcomes both directly and indirectly through its positive influence on teachers' professional practices.

Overall, teachers' pedagogical skills serve as an essential mediating bridge linking leadership practices to school performance. Effective leadership — whether strategic or distributed — contributes to school improvement largely through its capacity to build, sustain, and leverage the pedagogical strengths of teachers.



Table 4.14*Bootstrap Results: Standardized Indirect Effect*

Hypothesized Relationship	Path/effect	Path Coefficient	SE	95% Interval Of Confidence		P-Value	Decision
				Lower	Upper		
H6: <i>Teachers' Pedagogical Skills</i> mediate the relationship between <i>Strategic Leadership Practices</i> and <i>School Performance</i> .	SLP → TPS → SP	.039**	.019	.012	.073	.010*	Supported
H7: <i>Teachers' Pedagogical Skills</i> mediate the relationship between <i>Distributed Leadership Practices</i> and <i>School Performance</i> .	DLP → TPS → SP	.124**	.052	.064	0.201	.000*	Supported

Note. (*) Statistically Significant (**) Practically Important..

4.7.5 Findings Summary

The findings from Chapter Four demonstrate strong empirical support for the proposed conceptual framework linking Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers' Pedagogical Skills (TPS), and School Performance (SP) among Maldivian secondary schools.

Descriptive results in Table 4.15 revealed that both SLP and DLP are practiced at moderate levels, indicating ongoing progress toward institutionalising strategic and shared leadership structures. Conversely, TPS and SP were rated at high levels, underscoring teachers' professionalism and the schools' holistic performance outcomes in knowledge, skills, attitudes, and values.

Measurement model analyses confirmed that all constructs demonstrated strong reliability and validity, with acceptable model-fit indices (RMSEA < 0.08; CFI and TLI > 0.90). Structural Equation Modelling (SEM) revealed that both SLP ($\beta = 0.260$) and DLP ($\beta = 0.273$) significantly enhance SP, while TPS also directly contributes ($\beta = 0.216$). Moreover, SLP and DLP were significant predictors of TPS, with DLP exerting a particularly strong influence ($\beta = 0.584$), indicating that shared leadership culture substantially fosters teachers' pedagogical competence.

The mediation analysis confirmed that TPS plays a significant mediating role in the relationships between leadership practices and school performance. Notably, the indirect pathway through DLP ($\beta = 0.124$) was more pronounced than that of SLP ($\beta = 0.039$), suggesting that collaborative, distributed leadership mechanisms strengthen teacher capacity and amplify overall school outcomes.

In conclusion, the validated structural model illustrates that school performance in Maldivian secondary education is primarily driven by a synergistic interaction between distributed and strategic leadership practices and teachers' pedagogical expertise. These findings underscore the importance of cultivating participatory leadership cultures and continuous pedagogical development as levers for sustained school improvement and educational excellence.

Table 4.15*Summary of Findings for Research Questions and Hypotheses*

Research Question (RQ)	Associated Hypotheses	Key Findings / Results	Decision
RQ1: What are the levels of SLP, DLP, TPS, and SP among secondary schools in the Maldives?	—	SLP and DLP practiced at moderate levels ($M = 3.02-3.63$); TPS and SP practiced at high levels ($M = 3.58-4.20$).	Supported descriptive findings.
RQ2: Is the revised hypothesised model valid and reliable?	H_1-H_4, H_{10}	All constructs achieved Cronbach's $\alpha > 0.70$; CFA results confirmed model fit ($\chi^2/df = 2.757$; RMSEA = 0.069; CFI = 0.934; TLI = 0.923). High CR (0.823–0.919) and AVE (0.534–0.847) confirmed convergent and discriminant validity.	All supported
RQ3: What are the direct and significant relationships between SLP, DLP, and TPS with SP?	H_5-H_7	$SLP \rightarrow SP$ ($\beta = 0.260, p < 0.001$); $DLP \rightarrow SP$ ($\beta = 0.273, p < 0.001$); $TPS \rightarrow SP$ ($\beta = 0.216, p = 0.001$). All paths significant and positive.	Supported
RQ4: What are the direct and significant relationships between SLP and DLP with TPS?	H_4-H_5	$SLP \rightarrow TPS$ ($\beta = 0.182, p < 0.001$); $DLP \rightarrow TPS$ ($\beta = 0.584, p < 0.001$). Distributed leadership exhibited the strongest effect on TPS.	Supported
RQ5: Do TPS significantly mediate the relationships between (a) SLP and SP, and (b) DLP and SP?	H_8-H_9	$SLP \rightarrow TPS \rightarrow SP$ ($\beta = 0.039, p = 0.010$); $DLP \rightarrow TPS \rightarrow SP$ ($\beta = 0.124, p < 0.001$). Both mediation effects significant; stronger mediation for DLP.	Supported
—	Overall Model (H_{10})	Overall SEM model achieved satisfactory fit ($\chi^2/df = 2.744$; RMSEA = 0.069; CFI = 0.934; TLI = 0.923). Leadership and TPS collectively explained 28% of SP and 37% of TPS variance.	Supported

CHAPTER FIVE

DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This This chapter interprets and contextualises the empirical results reported in Chapter Four. It does so by linking the findings to the five research questions that guided the study and by showing how the observed relationships among strategic leadership practices (SLP), distributed leadership practices (DLP), teachers' pedagogical skills (TPS), and school performance (SP) help to explain school improvement in Maldivian secondary schools. In moving from results to interpretation, the chapter positions the study within the broader literature on educational leadership, instructional capacity, and school effectiveness, paying particular attention to how these bodies of work apply in a small-island, decentralising education system.

The chapter is structured in six parts. First, it discusses the results for each research question (RQ1–RQ5), highlighting what the levels of SLP, DLP, TPS, and SP reveal about the current state of Maldivian schools, and how the validated model confirms the appropriateness of the study's conceptualisation. Second, it derives theoretical implications, showing how the findings speak to the complementarity of strategic and distributed leadership and to the central mediating role of teachers' pedagogical skills. Third, it outlines the empirical implications, especially the value of the validated measures for future studies in similar contexts. Fourth, managerial and policy implications are presented for school leaders and education authorities seeking to strengthen leadership while sustaining high-quality teaching. Fifth, the limitations of the study are acknowledged to delimit the scope of the conclusions. Finally, the chapter offers recommendations for practice and further research, and a concluding synthesis of the study's overall contribution.

In essence, this chapter brings together what the study found, why it matters, and how it can be used to guide the next phase of educational improvement in the Maldives.

5.2 SUMMARY OF THE RESULTS

This study investigated the relationships among Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers' Pedagogical Skills (TPS), and School Performance (SP) in Maldivian secondary schools. The findings from the validated measurement and structural models provide clear evidence that leadership practices—both strategic and distributed—significantly influence school performance directly and indirectly through their impact on teachers' pedagogical skills.

The descriptive analysis revealed that while SLP and DLP were practised at moderate levels across schools, TPS and SP were rated at high levels. This indicates that Maldivian teachers demonstrate strong professional competence and that schools generally perform well, although leadership practices remain an area with room for further strengthening.

The measurement model met all psychometric requirements. All constructs showed high internal consistency ($\alpha > .70$), Composite Reliability (CR) ranged from 0.823 to 0.919, and the Average Variance Extracted (AVE) values ranged between 0.534 and 0.847. Discriminant validity was also established, and the overall confirmatory factor analysis (CFA) fit indices ($\chi^2/df = 2.744$; RMSEA = 0.069; CFI = 0.934; TLI = 0.923) indicated an acceptable measurement model. These results confirm that the constructs were measured with precision and theoretical coherence.

The structural model provided evidence of significant direct effects. Both SLP ($\beta = 0.260, p < 0.001$) and DLP ($\beta = 0.273, p < 0.001$) exhibited meaningful positive influences on SP, demonstrating that leadership plays an important role in shaping school outcomes. TPS also had a significant direct effect on SP ($\beta = 0.216, p = 0.001$), highlighting the centrality of instructional quality in school effectiveness.

In addition, both leadership constructs significantly predicted teachers' pedagogical skills. SLP demonstrated a moderate positive effect on TPS ($\beta = 0.182, p < 0.001$), whereas DLP exerted a substantially stronger influence ($\beta = 0.584, p < 0.001$). These findings suggest that participatory and collaborative leadership arrangements are particularly influential in enhancing teachers' instructional

competencies. Collectively, the structural model explained 37% of the variance in TPS and 28% of the variance in SP.

The mediation analysis further confirmed the central role of TPS in connecting leadership practices to school performance. The indirect effect of SLP on SP through TPS was small but significant ($\beta = 0.039$, $p = 0.010$), indicating partial mediation. The mediation pathway for DLP was stronger and practically meaningful ($\beta = 0.124$, $p < 0.001$), demonstrating that distributed leadership improves school performance not only through direct pathways but also by substantially strengthening pedagogical practice. Confidence intervals for both indirect effects excluded zero, affirming the robustness of the mediation findings.

In summary, the results in Table 5.1 show that school performance in Maldivian secondary schools is shaped by a combination of strategic direction, distributed collaboration, and strong pedagogical capacity. Distributed leadership, in particular, emerged as a powerful influence on teachers' pedagogical skills, which in turn significantly contributes to overall school performance. These findings underscore the importance of aligning leadership practices with continuous meaningful professional development to sustain and enhance instructional quality within the Maldivian education system.

Table 5.1*Summary of the Results*

RQ	Hypotheses	Path / Result	Statistical Evidence	Decision
RQ1: Levels of SLP, DLP, TPS, SP	—	SLP & DLP: Moderate; TPS & SP: High	Means: SLP 3.02–3.63; TPS & SP 3.58–4.20	Supported (Descriptive)
RQ2: Model validity & reliability	H1–H4, H10	All constructs valid & reliable	$\alpha > .70$; CR = 0.823–0.919; AVE = 0.534–0.847; CFA fit acceptable (RMSEA 0.069; CFI 0.934; TLI 0.923)	Supported
RQ3: Direct effects on SP	H5	SLP → SP	$\beta = 0.260$; $p < 0.001$	Supported
	H6	DLP → SP	$\beta = 0.273$; $p < 0.001$	Supported
	H7	TPS → SP	$\beta = 0.216$; $p = 0.001$	Supported
RQ4: Direct effects on TPS	H4	SLP → TPS	$\beta = 0.182$; $p < 0.001$	Supported
	H5	DLP → TPS	$\beta = 0.584$; $p < 0.001$	Supported
RQ5: Mediation via TPS	H8	SLP → TPS → SP	$\beta_{\text{indirect}} = 0.039$; SE = 0.019; $p = 0.010$; 95% CI [0.012, 0.073]	Supported (Partial Mediation)
	H9	DLP → TPS → SP	$\beta_{\text{indirect}} = 0.124$; SE = 0.052; $p < 0.001$; 95% CI [0.064, 0.201]	Supported (Strong Partial Mediation)
Overall Model	H10	SEM model fit & variance explained	SP: $R^2 = 0.28$; TPS: $R^2 = 0.37$; Fit indices satisfactory ($\chi^2/df = 2.744$; CFI = 0.934; TLI = 0.923)	Supported

5.3 DISCUSSION OF THE RESULTS

5.3.1 RQ1: Levels of Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers' Pedagogical Skills (TPS), and School Performance (SP) in Maldivian Secondary Schools

The descriptive results presented in Chapter Four revealed that Strategic Leadership Practices (SLP) ($M = 3.62$, $SD = 0.63$) and Distributed Leadership Practices (DLP) ($M = 3.54$, $SD = 0.61$) in Maldivian secondary schools are maintained at *moderate levels*, while Teachers' Pedagogical Skills (TPS) ($M = 3.89$, $SD = 0.55$) and School Performance (SP) ($M = 3.91$, $SD = 0.58$) are perceived to be at *high levels*. This pattern depicts an education system characterised by strong pedagogical practice and positive school outcomes, yet with leadership practices still in a stage of consolidation and institutional maturity.

The moderate level of SLP aligns with several prior studies in the Maldivian context, which have highlighted that while principals are increasingly familiar with strategic planning principles, their implementation tends to be inconsistent. Fikuree (2021), for example, found that school leaders often prioritise administrative coordination over instructional leadership, leading to uneven realisation of strategic goals. Similarly, Shujau-Abdul-Raheem (2023) observed that while most school leaders communicate the vision and mission of their schools, these ideals are not yet fully embedded within daily teaching and learning processes. This pattern corresponds with global findings indicating that strategic leadership is often procedurally established but not sufficiently leveraged to drive pedagogical innovation or sustained improvement (Davies & Davies, 2004; Rowe, 2001; OECD, 2020). These findings suggest that although Maldivian schools have adopted the formal structures of strategic leadership, the linkage between leadership intent and instructional outcomes remains underdeveloped.

The moderate level of DLP observed also resonates with both national and international evidence. In the Maldivian context, distributed leadership is gradually gaining recognition but continues to face implementation barriers. Azeez (2020) and Waheed (2025) reported that collaborative decision-making and teacher leadership are being promoted but are still constrained by hierarchical school traditions and limited autonomy. These findings echo the broader leadership literature, which views

distributed leadership as an evolving practice that strengthens progressively through the development of professional trust and collective responsibility (Spillane, 2005; Gronn, 2002; Elmore, 2000). As the Maldives continues its policy of decentralisation and the professionalisation of school management, DLP is expected to become a central mechanism for achieving sustainable school improvement.

In contrast, TPS was rated at a high level, suggesting that Maldivian teachers demonstrate strong competence in lesson planning, classroom management, and assessment literacy. These results reinforce earlier findings by Waseela (2022) and Waheed et al. (2025), who found that continuous professional development initiatives and recent curriculum reforms have significantly enhanced teachers' instructional capacity, particularly in formative assessment, inclusive pedagogy, and learner engagement. This aligns with international research, which consistently identifies pedagogical proficiency—encompassing both instructional design and classroom interaction—as a crucial determinant of student achievement and teacher efficacy (Kyriacou, 2009; Pastore et al., 2023; Fabian et al., 2024). The high TPS scores in this study thus reflect the tangible outcomes of the government's long-term investment in teacher development and pedagogical reform.

Similarly, SP was also reported at a high level, reflecting the growing emphasis on accountability, quality teaching, and student-centred learning in Maldivian schools. These findings align with the work of Leithwood et al. (2020) and Mortimore (1998), who established that effective leadership, when coupled with strong instructional practice, is a critical determinant of overall school effectiveness. In the Maldivian context, although leadership practices are not yet fully optimised, the strength of teachers' pedagogical skills and a collaborative school culture have contributed meaningfully to high performance outcomes.

Taken together, the findings depict an education system in transition—one that has achieved considerable progress in teaching and learning but is still evolving toward leadership maturity. The moderate levels of SLP and DLP indicate that leadership remains the domain most in need of systematic strengthening to sustain and amplify current achievements in instruction and performance. Strengthening strategic alignment, deepening distributed decision-making, and institutionalising data-

informed and collaborative leadership practices will enable Maldivian secondary schools to consolidate their pedagogical gains and achieve lasting improvement.

5.3.2 RQ2: Validity and Reliability of the Revised Hypothesised Model

H₁: The measurement model for Strategic Leadership Practices demonstrates validity and reliability.

H₂: The measurement model for Distributed Leadership Practices demonstrates validity and reliability.

H₃: The measurement model for Teachers' Pedagogical Skills demonstrates validity and reliability.

H₄: The measurement model for School Performance demonstrates validity and reliability.

The second research question sought to establish whether the revised hypothesised model developed in this study was statistically valid and reliable. The model aimed to confirm the structural relationships among Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers' Pedagogical Skills (TPS), and School Performance (SP) within Maldivian secondary schools. Ensuring validity and reliability was essential to demonstrate that the latent constructs and their indicators accurately represented the underlying theoretical concepts.

The validation process adhered to internationally recognised standards for Structural Equation Modelling (SEM) and psychometric evaluation, integrating both classical and contemporary approaches (Oluwatayo, 2012; Walden, 2012; Kaplan & Saccuzzo, 2005). The model was tested through confirmatory factor analysis (CFA) following the recommendations of Hair et al. (2010), Byrne (2010), Kline (2023), and Schumacker and Lomax (2016), which emphasise examining factor loadings, reliability coefficients, and overall fit indices to assess model adequacy.

To establish construct validity, both convergent and discriminant validity were carefully examined. Convergent validity was confirmed through high standardised factor loadings, Average Variance Extracted (AVE) values exceeding 0.50, and Composite Reliability (CR) values surpassing the minimum threshold of 0.70. These outcomes demonstrate that the observed indicators strongly represented their respective latent constructs. Discriminant validity was established using the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio (Fornell & Larcker, 1981; Henseler et al., 2015), which confirmed that the constructs were sufficiently distinct from one another and that there was no significant overlap between conceptually different domains. Together, these results provide robust evidence that the constructs measured what they were intended to measure, fulfilling the essential psychometric conditions of a sound model.

Each of the four constructs incorporated into the model was theoretically grounded and supported by well-established frameworks in the literature. The Strategic Leadership Practices construct drew from the framework of Davies and Davies (2004, 2009), which conceptualises strategic leadership as a multidimensional process encompassing direction-setting, organisational alignment, capacity building, and strategic learning. Its inclusion in this model ensured that leadership was not viewed merely as an administrative function but as an ongoing process of driving improvement through strategic coherence and instructional focus.

Distributed Leadership Practices were based on the foundational works of Spillane (2005), Gronn (2002), and Elmore (2000), who define leadership as an interactive, shared process distributed across formal and informal actors within the school. These perspectives acknowledge that effective leadership is enacted collectively, relying on trust, collaboration, and the distributed use of expertise. The operationalisation of DLP in this study captured dimensions such as shared responsibility, collaborative decision-making, and empowerment, aligning well with international empirical validations confirming DLP's reliability and structural consistency across educational contexts (Zerfu et al., 2024).

Teachers' Pedagogical Skills (TPS) were conceptualised around three major domains—lesson design and implementation, classroom management, and assessment literacy—consistent with the conceptualisations of Kyriacou (2009). The measurement of TPS in this study aligns with current trends in global teacher quality research, which highlight the increasing importance of assessment-informed instruction, technological integration, and inclusive teaching practices. This alignment is further supported by recent reviews affirming the psychometric soundness of pedagogical constructs such as TPACK and assessment literacy (Pastore et al., 2023; Fabian et al., 2024).

Finally, School Performance (SP) was measured through indicators that capture both internal and external dimensions of effectiveness, including instructional quality, student achievement, and organisational development. This multidimensional approach resonates with international research linking leadership and teaching quality to school outcomes (Leithwood et al., 2020; Mortimore, 1998).

The model fit indices provided further confirmation of validity and reliability. The overall measurement model yielded $\chi^2(198) = 545.853$, $p < .001$; $\chi^2/df = 2.757$; CFI = 0.934; IFI = 0.934; TLI = 0.923; and RMSEA = 0.069. These indices are within the accepted thresholds for good model fit (Kline, 2023; Hair et al., 2021). Specifically, the Comparative Fit Index (CFI) and Incremental Fit Index (IFI) values exceeded the 0.90 benchmark, indicating strong relative fit compared to a null model, while the Tucker–Lewis Index (TLI) value of 0.923 confirmed the model's parsimony. The RMSEA value of 0.069 falls below the maximum threshold of 0.08, indicating that the model provides an acceptable approximation of reality with minimal residual error. Together, these statistics confirm that the measurement and structural components of the model are both statistically robust and theoretically coherent.

Moreover, the model's validation within the Maldivian context carries significant empirical and methodological implications. Given that most existing SEM-based leadership studies have been conducted in larger, resource-rich education systems, this model demonstrates that global leadership constructs can maintain their psychometric integrity even in small-island, developing contexts characterised by

decentralisation, cultural variability, and resource constraints. The success of this validation suggests that constructs such as SLP and DLP are theoretically portable and empirically adaptable, capable of capturing the dynamics of leadership and instruction in diverse educational settings.

In sum, the results affirm that the revised hypothesised model possesses strong validity, reliability, and overall model fit. Each construct was measured accurately, and the interrelationships among them were theoretically consistent and statistically supported. The model thus offers a robust empirical framework for understanding how leadership practices and pedagogical skills interact to influence school performance in the Maldives. Furthermore, it provides a replicable structure for future research aimed at monitoring leadership effectiveness, guiding professional development, and informing policy reforms in similar small-state or developing educational systems.

5.3.3 RQ3: Direct and Significant Relationships between Strategic Leadership Practices, Distributed Leadership Practices, and Teachers' Pedagogical Skills with School Performance in Maldivian Secondary Schools

H₁: There is a direct and significant relationship between Strategic Leadership Practices and School Performance.

H₂: There is a direct and significant relationship between Distributed Leadership Practices and School Performance.

H₃: There is a direct and significant relationship between Teachers' Pedagogical Skills and School Performance.

The third research question investigated the direct and significant relationships between Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), and Teachers' Pedagogical Skills (TPS) with School Performance (SP). The findings from the structural model revealed that all three constructs had significant positive effects on school performance, confirming that leadership practices and pedagogical competencies are central drivers of school effectiveness in the Maldivian secondary education system. The following sections discuss these relationships in detail, linking the findings with both local and international evidence.

5.3.3.1 Strategic Leadership Practices and School Performance in Maldivian Secondary Schools

Within the Maldivian context, strategic leadership practices are increasingly recognised as a decisive factor in determining school performance and overall instructional quality. The analysis indicated a positive and significant direct relationship between SLP and SP, signifying that schools with stronger strategic direction, goal alignment, and systematic planning tend to perform better. This relationship underscores the importance of visionary and data-driven leadership for improving educational outcomes.

Empirical studies in the Maldives have consistently reinforced the influence of strategic leadership on performance. Fikuree (2021) demonstrated that principals' effectiveness in promoting teacher quality directly predicts gains in English as a Second Language (ESL) outcomes, reflecting the pivotal role of instructional coherence and targeted capacity building. Similarly, Shujau-Abdul-Raheem (2023) found that consistent communication of the school's mission, alignment of curricular objectives, and cultivation of a learning-oriented climate positively correlate with improved teaching quality. These findings support the view that strategic leadership in the Maldives contributes to school performance primarily by enhancing instructional focus and professional collaboration.

These local patterns mirror international research demonstrating that strategic leadership positively affects school outcomes when leaders prioritise instructional improvement, systematic monitoring, and sustained professional development (Tan et al., 2021; Jaafar et al., 2022; Ağirdağ & Muijs, 2023). However, global evidence also reveals mixed or context-dependent results, with some studies reporting weaker overall effects once contextual and school-level variables are controlled (Amin et al., 2023; Kawinzi & Nzina, 2025). Nevertheless, most research converges on the conclusion that strategic leadership primarily exerts its influence indirectly—by strengthening teacher collaboration, curriculum integration, and the effective use of assessment data (Shen et al., 2020; Tsuyuguchi et al., 2020).

In the Maldivian secondary school system, these findings suggest that the most effective principals are those who link strategic planning with concrete instructional strategies. When leaders employ evidence-based decision-making, invest in human capital development, and engage teachers as partners in reform, they create conditions for sustained improvement in teaching and learning. Thus, the results reaffirm that strategic leadership serves as the foundation for system-wide performance enhancement through purposeful alignment of goals, resources, and instructional practices.

Hypothesis H₁: There is a direct and significant relationship between Strategic Leadership Practices and School Performance.

5.3.3.2 Distributed Leadership Practices and School Performance in Maldivian Secondary Schools

The study also found a positive and significant relationship between Distributed Leadership Practices (DLP) and School Performance (SP), indicating that leadership shared across multiple actors contributes meaningfully to organisational effectiveness. Distributed leadership has gained increasing prominence in the Maldivian educational discourse as a means of expanding teacher agency, promoting professional collaboration, and building collective instructional capacity.

Cross-national studies demonstrate that distributed leadership enhances the learning environment indirectly through mechanisms such as improved teacher collaboration, increased professional motivation, and enhanced self-efficacy—factors that are critical for student achievement and school improvement (Bellibaş, Gümüş, & Liu, 2020; Kılınç, Polatcan, & Çepni, 2023). It has also been shown to reduce persistent achievement gaps and promote academic equity through stronger community engagement and shared accountability (Tsuyuguchi, Fujiwara, & Uzuki, 2020). These findings align with research from similar developing systems, where distributed leadership has been linked to improvements in innovation, teacher commitment, and school-wide effectiveness (Khadka, Dhakal, & Joshi, 2024; Hata, Nor, & Hamid, 2020; O’Shea, 2021).

Meta-analytic reviews affirm the general positive association between distributed leadership and performance, though they often describe the direct effects as modest and context-dependent (Tan, Dimmock, & Walker, 2021; Shen et al., 2020). The strength of this relationship depends on enabling organisational conditions—particularly trust, clear role definition, and supportive professional learning structures (Printy & Liu, 2020; Liu, 2021; de Jong et al., 2023). In systems where such conditions are weak, distributed leadership can become fragmented and lose its potential impact.

In the Maldives, where many schools operate in geographically dispersed atolls with uneven resource allocation, distributed leadership provides a practical solution to challenges of scale and capacity. By fostering collaboration among teachers, middle leaders, and principals, DLP mitigates isolation and promotes localised problem-solving. It also allows for shared responsibility in curriculum development, peer mentoring, and innovation in instructional practices. Therefore, the results underscore that distributed leadership contributes to school performance by cultivating a collaborative culture, enhancing collective accountability, and building the shared expertise necessary for sustained improvement.

Hypothesis H₂: There is a direct and significant relationship between Distributed Leadership Practices and School Performance.

5.3.3.3 Teachers’ Pedagogical Skills and School Performance in Maldivian Secondary Schools

The results also confirmed a strong and significant direct relationship between Teachers’ Pedagogical Skills (TPS) and School Performance (SP), highlighting pedagogy as the most immediate determinant of learning quality and school success. In the Maldivian context, teachers’ ability to design engaging lessons, manage classrooms effectively, and employ assessments to inform instruction directly influences student outcomes.

Local studies support this conclusion. Nandan and Sulaipher (2025) reported that teacher competence, job satisfaction, and problem-solving ability are significant predictors of school performance, emphasising the human element of educational success. Similarly, Razak et al. (2023) found that pedagogical content knowledge (PCK) and assessment literacy enable teachers to generate continuous feedback loops that deepen learning, outperforming models that rely on content mastery alone. Research by Waseela (2022) further observed that Maldivian teachers exhibit strong technological pedagogical content knowledge (TPACK) capacities, though many still employ teacher-centred digital practices, suggesting room for innovation and pedagogical transformation.

Internationally, numerous studies corroborate the link between pedagogical proficiency and school performance. Classroom management, teacher efficacy, and active learning approaches have all been shown to improve student achievement and engagement (Ngetich, 2023; Asiegbu et al., 2022; Bileti, 2022). Professional development remains a critical enabler of pedagogical quality, as shown by Waheed et al. (2025), who found that teachers' participation in targeted, high-quality training programs directly enhanced formative assessment practices and classroom outcomes. However, several studies caution that the relationship between pedagogical skills and school performance may vary across contexts, depending on resource availability, implementation fidelity, and measurement precision (Ikechukwu, 2020; Afandi et al., 2023).

Regional and comparative evidence points to ongoing needs in differentiated instruction, technology integration, and collaborative pedagogy (Ham et al., 2022; Mustapa & Miskon, 2023; Setiawan et al., 2025). These areas remain essential frontiers for the Maldivian system, where pedagogical practices, though strong, must continue evolving to address diverse learning needs and digital-age competencies.

Taken together, the findings confirm that pedagogical skills are a pivotal determinant of school performance. Effective teaching acts as the immediate mechanism through which leadership influence translates into student success. For Maldivian secondary schools, strengthening teachers' pedagogical capacities through continuous, practice-based professional development, reflective learning communities,

and data-informed instruction will be essential for sustaining high levels of school performance.

Hypothesis H₃: There is a direct and significant relationship between Teachers' Pedagogical Skills and School Performance.

In summary, the analysis confirms that strategic leadership, distributed leadership, and pedagogical skills each exert significant positive effects on school performance. Strategic leadership provides coherence and direction, distributed leadership enhances collaboration and teacher empowerment, and pedagogical skills ensure that these leadership influences are effectively realised in classroom practice. Together, these findings highlight that improving school performance in the Maldivian context depends on a dynamic interplay between leadership strength and instructional excellence.

5.3.4 RQ4: Direct and Significant Relationships between Strategic Leadership Practices and Distributed Leadership Practices with Teachers' Pedagogical Skills in Maldivian Secondary Schools

H₄: There is a direct and significant relationship between Strategic Leadership Practices and Teachers' Pedagogical Skills.

H₅: There is a direct and significant relationship between Distributed Leadership Practices and Teachers' Pedagogical Skills.

This research question explored how strategic and distributed leadership practices influence teachers' pedagogical skills (TPS) within the Maldivian secondary education system. The results revealed that both Strategic Leadership Practices (SLP) and Distributed Leadership Practices (DLP) had significant positive effects on teachers' pedagogical skills, confirming that leadership—both top-down and shared—plays a vital role in shaping instructional quality. The following sections discuss these relationships in detail, contextualised within the broader body of literature.

5.3.4.1 Relationships Between Strategic and Distributed Leadership Practices

The interaction between strategic and distributed leadership represents an increasingly recognised dynamic in both organisational and educational research. The literature indicates that these two forms of leadership are not opposing forces but operate in a complementary and mutually reinforcing manner. Strategic leadership provides the direction, resources, and structural support necessary for distributed leadership to function effectively. Without strategic vision, distributed leadership risks fragmentation; conversely, without distributed engagement, strategic initiatives often fail to reach the classroom level (Agarwal et al., 2021; Canterino et al., 2020).

Empirical evidence from diverse organisational contexts reinforces this interdependence. In project-based organisations, distributed leadership flourishes when strategic leaders cultivate a collaborative culture that supports psychological safety and knowledge sharing (Agarwal et al., 2021). Similarly, in emerging enterprises, strategic leaders empower distributed leadership actors to build competence and trust, facilitating innovation such as circular economy practices (Soni et al., 2023). In complex institutions such as healthcare networks, distributed leadership thrives only when a unifying strategic leader maintains coherence across teams (Gutberg et al., 2021). During periods of significant change, strategic leadership plays a stabilising role by managing uncertainty and ensuring that distributed efforts remain aligned with institutional goals (Jarrett & Vince, 2023).

Within schools, similar mechanisms are observed. Distributed leadership depends on principals and senior leaders to establish structural and cultural conditions conducive to collaboration and shared responsibility. Studies in educational and healthcare systems alike confirm that distributed leadership effectiveness relies on strategic coherence and ongoing managerial support (De Jong et al., 2023; Carstensen et al., 2023). Thus, effective distributed leadership does not emerge spontaneously; it is intentionally cultivated through strategic leadership that provides organisational scaffolding, emotional containment, and a shared vision. This dynamic synergy between the two leadership forms underpins much of the instructional improvement observed in effective school systems.

Hypothesis H₄: There is a direct and significant relationship between Strategic Leadership Practices and Teachers' Pedagogical Skills.

5.3.4.2 Strategic Leadership Practices and Teachers' Pedagogical Skills

A consistent pattern across the literature demonstrates that strategic leadership practices substantially enhance teachers' pedagogical skills. The findings from this study support that relationship, indicating that leaders who articulate a clear instructional vision, provide targeted professional development, and cultivate collaborative learning cultures directly contribute to improving teaching quality. Strategic leaders influence pedagogy by shaping school priorities, aligning staff development with instructional goals, and fostering reflective practice.

Empirical evidence strongly supports this relationship. Masengesho (2025) and Berhanu (2025) found that strategic leaders who clarify instructional expectations and ensure alignment between teaching practices and school goals achieve measurable gains in teacher performance and student engagement. Professional development serves as a critical mechanism through which strategic leadership promotes pedagogical innovation. Leaders who embed continuous learning into school routines and encourage reflective inquiry empower teachers to adopt new instructional strategies and enhance classroom effectiveness (Dorukbaşı & Cansoy, 2024; Oliva & Bautista, 2025; Yalçın et al., 2025; Daze et al., 2024).

Collaboration also emerges as a key conduit for leadership impact. Studies by Bellibaş et al. (2020) and Xiaorong and Marion (2024) highlight that when strategic leaders prioritise teacher collaboration and shared instructional ownership, professional learning communities flourish, leading to more coherent and effective teaching. Moreover, the role of trust and psychological empowerment has been identified as essential in motivating teachers to engage in innovative pedagogical practices. Yalçın et al. (2025) and Fonsén et al. (2022) note that teachers who feel trusted and supported by their leaders demonstrate higher professional commitment, creativity, and willingness to experiment with new teaching approaches.

In the Maldivian context, these insights carry particular weight. The education system's decentralising structure means that principals must act strategically to align school goals, resource allocation, and professional learning. Strategic leadership in such a setting strengthens teachers' pedagogical skills by fostering an environment that values innovation, collaboration, and evidence-based improvement. Schools where principals actively model reflective practice and link school planning with instructional development are more likely to achieve consistent pedagogical advancement.

Therefore, the findings affirm that strategic leadership practices enhance teachers' pedagogical skills by reinforcing instructional vision, building professional capacity, and cultivating a culture of collaboration and empowerment.

5.3.4.3 Distributed Leadership Practices and Teachers' Pedagogical Skills

The study also confirmed a significant positive relationship between distributed leadership practices and teachers' pedagogical skills. Across diverse educational systems, distributed leadership is shown to strengthen pedagogy by promoting collaboration, autonomy, and professional learning. This model encourages teachers to participate in decision-making, share expertise, and engage in collective problem-solving—processes that foster deeper pedagogical understanding and instructional innovation.

Large-scale cross-national analyses affirm that distributed leadership enhances teacher collaboration and job satisfaction, which in turn elevate instructional quality (Bellibaş et al., 2020; Ma & Marion, 2024). Similarly, Lin (2022) and Cao et al. (2024) found that distributed leadership predicts teacher innovativeness both directly and indirectly through mechanisms such as trust, collaboration, and collective efficacy. Özdemir et al. (2023) further demonstrated that distributed leadership creates distinct collaborative cultures that influence teachers' instructional profiles at both the teacher and school levels.

In the domain of inclusive education, distributed leadership has been shown to enhance differentiated instruction by empowering teachers to assume leadership roles that support inclusion and responsive pedagogy (Wang & Tian, 2023). Evidence from Jakarta revealed that distributed leadership complements instructional leadership, with the two working synergistically to enhance teacher professional development (Amzat et al., 2022).

However, the strength of distributed leadership's impact often depends on contextual conditions. Studies indicate that while distributed leadership can indirectly improve pedagogy through enhanced collaboration and motivation (Bektaş et al., 2020), its direct effects may vary depending on organisational climate. Hsieh et al. (2024) reported cases where distributed leadership showed weak or negative direct associations with instructional quality but positive indirect effects through innovation and autonomy. Kumari (2021) similarly found that distributed leadership faces challenges in contexts lacking strong collaborative culture or institutional trust.

Complementary qualitative studies reinforce these findings. De Jong et al. (2023), Galdames-Calderón (2023), Hata et al. (2020), Osei et al. (2025), and Ali et al. (2025) all emphasise that distributed leadership fosters morale, empowerment, and competency growth when supported by formal structures, clear communication, and joint practice between leaders and teachers. These social–organisational mediators are crucial: they expand teachers' sense of agency, encourage professional experimentation, and strengthen collective efficacy.

In the Maldivian secondary education context, distributed leadership offers practical advantages given the geographic dispersion of schools and the necessity of localised decision-making. By empowering leading teachers (teacher leaders), encouraging peer collaboration, and promoting joint instructional planning, distributed leadership builds pedagogical resilience and adaptability across diverse school environments.

Taken together, the evidence confirms that distributed leadership enhances teachers' pedagogical skills primarily by enabling professional collaboration, promoting shared learning, and cultivating teacher autonomy. This reinforces the view that leadership for learning is most effective when it is distributed across the professional community rather than concentrated in a single authority figure.

Hypothesis H₅: There is a direct and significant relationship between Distributed Leadership Practices and Teachers' Pedagogical Skills.

In summary, the results highlight that both strategic and distributed leadership play complementary roles in enhancing teachers' pedagogical skills. Strategic leadership provides the vision, coherence, and professional structures that sustain pedagogical growth, while distributed leadership activates the collaborative and motivational processes through which that growth occurs. For Maldivian secondary schools, integrating these two leadership approaches represents a powerful pathway toward continuous pedagogical improvement and long-term school development.

5.3.5 RQ5: Mediation of Teachers' Pedagogical Skills between Leadership Practices and School Performance in Maldivian Secondary Schools

H₆: Teachers' Pedagogical Skills mediate the relationship between Strategic Leadership Practices and School Performance.

H₇: Teachers' Pedagogical Skills mediate the relationship between Distributed Leadership Practices and School Performance.

This section examined whether teachers' pedagogical skills (TPS) serve as a mediating variable in the relationship between leadership practices—both strategic and distributed—and school performance (SP). The findings confirmed that TPS significantly mediates these relationships, supporting the proposition that leadership primarily influences school outcomes through its impact on teaching quality rather than through direct administrative pathways. The results align with a growing body of international and regional evidence underscoring that effective leadership shapes student achievement and institutional success by building teacher capacity, enhancing instructional practice, and fostering professional collaboration.

5.3.5.1 The Mediation Role of Teachers' Pedagogical Skills in Maldivian Secondary Schools

A well-documented pattern across educational research suggests that leadership exerts its greatest influence indirectly, by enabling teachers to improve the quality of classroom instruction. This study's findings reinforce that understanding within the Maldivian context, demonstrating that both Strategic Leadership Practices (SLP) and Distributed Leadership Practices (DLP) impact School Performance (SP) primarily through their effect on Teachers' Pedagogical Skills (TPS). The evidence positions TPS as a critical conduit linking leadership and performance, highlighting teacher capacity as the central mechanism through which leadership intentions are realised in tangible school outcomes.

5.3.5.2 Strategic Leadership → Teachers' Pedagogical Skills → School Performance

Strategic leadership contributes to school performance chiefly by enhancing teachers' instructional capacity and professional growth. The findings indicated that principals who provide clear instructional direction, supportive work environments, and continuous professional learning opportunities indirectly improve student performance by strengthening pedagogical practice. This is consistent with extensive empirical research showing that instructional vision and developmental leadership are key mediators between strategy and learning outcomes.

Studies by Masengesho (2025) and Berhanu (2025) demonstrate that when leaders align instructional priorities with school goals, teachers' professional competencies and instructional performance improve substantially. Similarly, Dorukbaşı and Cansoy (2024), Oliva and Bautista (2025), Yalçın et al. (2025), and Daze et al. (2024) emphasise that leadership-driven professional development—characterised by sustained reflection, collaboration, and targeted pedagogical training—enhances teachers' motivation, instructional innovation, and classroom effectiveness.

Maldivian research provides supporting evidence for this indirect mechanism. Fikuree et al. (2021) found that principal leadership in improving teacher quality significantly predicts ESL outcomes, while Waheed et al. (2025) showed that leadership efforts to expand access to professional development lead to measurable gains in formative assessment and inclusive instructional practices. These findings confirm that leadership practices contribute to performance outcomes to the extent that they raise the pedagogical competence and confidence of teachers.

Comparative studies provide further corroboration. Amin et al. (2023) and Kawinzi and Nzina (2025) found that once teacher quality variables are controlled, the direct effects of strategic leadership on student achievement often diminish, underscoring its indirect impact through instructional improvement. Ağirdağ and Muijs (2023) similarly reported that leadership activities tied to capacity building and instructional management remain significant predictors of student performance even when direct administrative variables are excluded. Meta-analyses by Shen et al. (2020) and Tan et al. (2021) further validate this pattern, demonstrating that strategic leadership translates into improved outcomes when mediated by teacher learning and assessment-informed pedagogy.

Taken together, these findings affirm that strategic leadership enhances school performance not through direct managerial oversight, but by elevating teachers' pedagogical skills, aligning instructional processes with school goals, and sustaining professional learning systems that foster continuous improvement.

Hypothesis H₆: Teachers' Pedagogical Skills mediate the relationship between Strategic Leadership Practices and School Performance.

5.3.5.3 Distributed Leadership → Teachers' Pedagogical Skills → School Performance

Distributed leadership similarly contributes to school performance through its indirect influence on teachers' pedagogical capacity. Rather than affecting outcomes through hierarchical control, distributed leadership enhances performance by cultivating professional collaboration, teacher autonomy, and shared accountability for

instructional quality. The study confirmed that schools demonstrating higher levels of distributed leadership tended to show stronger pedagogical practice, which in turn was associated with improved performance outcomes.

This relationship is well supported in the literature. Cross-national studies have consistently found that distributed leadership strengthens teacher collaboration and professional learning, creating conditions that lead to better classroom instruction and student achievement (Bellibaş, Gümüş, & Liu, 2020; Ma & Marion, 2024). Lin (2022) and Cao et al. (2024) reported that distributed leadership predicts teacher innovativeness both directly and indirectly through collaboration, trust, and collective efficacy. Similarly, Özdemir et al. (2023) demonstrated that distributed leadership fosters collaborative professional cultures that differentiate instructional quality at both teacher and school levels.

Inclusion-oriented studies show comparable patterns. Wang and Tian (2023) found that distributed leadership by principals supports differentiated instruction through the empowerment of teacher leaders. Amzat et al. (2022) confirmed that distributed and instructional leadership complement each other, with the former enabling teacher-led professional growth and the latter providing structure and alignment.

The indirect nature of distributed leadership's effects has also been highlighted in several meta-analyses. Bektaş et al. (2020), Kılınç, Polatcan, and Çepni (2023), and Tsuyuguchi, Fujiwara, and Uzuki (2020) all concluded that distributed leadership improves performance mainly through teachers' collective learning and collaboration rather than direct administrative control. Even when direct relationships are weak or inconsistent, as observed by Hsieh et al. (2024), indirect effects through enhanced pedagogical innovation remain robust.

Further qualitative studies emphasise that the success of distributed leadership depends on enabling organisational and cultural factors. De Jong et al. (2023), Hata et al. (2020), Osei et al. (2025), and Ali et al. (2025) noted that distributed leadership enhances morale, empowerment, and competence when it is supported by clear communication, trust, and shared practice. These mediating processes—collaboration, empowerment, and innovation—explain how distributed leadership indirectly

translates into higher pedagogical quality and, consequently, better school performance.

In the Maldivian context, where geographic dispersion and teacher variability present ongoing challenges, distributed leadership offers a particularly effective strategy for promoting equitable instructional quality. By encouraging teacher-led initiatives, peer mentoring, and decentralised professional learning, schools can leverage distributed leadership to strengthen pedagogy and drive sustainable performance gains across diverse island settings.

Hypothesis H₇: Teachers' Pedagogical Skills mediate the relationship between Distributed Leadership Practices and School Performance.

The collective evidence from this study and previous research suggests that neither strategic leadership nor distributed leadership alone is sufficient to drive significant improvements in school performance. Their impact becomes meaningful when leadership practices are translated into tangible pedagogical improvements. Teachers' pedagogical skills, therefore, serve as the key mediating mechanism through which leadership contributes to better learning outcomes and institutional effectiveness.

In the Maldivian secondary education system, this mediation underscores the centrality of teacher quality as the operational link between leadership and school success. Strong leadership—both strategic and distributed—creates the enabling conditions for pedagogical excellence, but it is teachers' capacity to design effective instruction, manage classrooms, and use assessment data that ultimately determines student outcomes. Thus, policy efforts and school improvement strategies should prioritise the development of teachers' pedagogical competencies as the primary means through which leadership investments yield sustainable gains in performance.

In conclusion, the mediation results provide empirical support for a leadership–pedagogy–performance model in which teachers' pedagogical skills form the essential bridge between leadership initiatives and educational achievement. This finding carries profound implications for the Maldivian education system: leadership reforms must be tightly coupled with continuous, school-based professional

development to ensure that the benefits of strategic and distributed leadership are realised in the quality of teaching and learning across all schools.

5.4 IMPLICATIONS

The findings of this study yield several important implications for theory, administration, practice, and the Islamization of knowledge. The results confirmed that strategic and distributed leadership practices significantly affect teachers' pedagogical skills and school performance, with TPS mediating the effects of both leadership dimensions on SP. These results not only advance theoretical understanding of leadership–pedagogy–performance relationships but also provide actionable insights for school leaders, educational policymakers, and teacher educators in the Maldivian context.

5.4.1 Theoretical Implications

The theoretical implications of this study extend the understanding of how leadership practices function as systemic levers for improving school outcomes in small-island and developing education systems. First, the validated model empirically confirms the interdependent relationship between strategic and distributed leadership practices, supporting the argument that effective school improvement arises when formal and shared leadership coexist harmoniously. This complements and extends foundational theories of leadership (Davies & Davies, 2004; Spillane, 2005; Gronn, 2002) by demonstrating that strategic vision and distributed agency jointly predict higher teacher capacity and performance outcomes.

Second, the study provides evidence for the mediating role of teachers' pedagogical skills (TPS) in linking leadership to school performance. This confirms and operationalizes the *leadership-for-learning* framework (Leithwood et al., 2020; Shen et al., 2020) in the Maldivian context, showing that leadership's influence is primarily exercised through enhancing teachers' instructional practices rather than direct managerial control. The results affirm that teacher quality acts as the primary

conduit through which leadership transforms institutional structures into improved learning environments.

Third, the theoretical framework tested here integrates leadership and pedagogy within a single structural model validated through SEM, thereby offering a refined lens for studying educational effectiveness in non-Western and developing contexts. By situating this model within the Maldivian secondary education system, the study contributes to contextualized theory-building, affirming that globally derived leadership constructs retain explanatory power when culturally and institutionally adapted. This enhances the theoretical portability of leadership frameworks to small, resource-constrained, and decentralized systems.

Finally, the results advance the emerging discourse on *distributed–strategic hybridity*, suggesting that leadership should not be conceptualized as a dichotomy between visionary and participatory modes but as an interdependent continuum that aligns long-term strategy with collective enactment. This hybrid model represents a significant theoretical contribution to leadership studies in education, particularly for island and developing nations where collective professional capacity is central to sustaining improvement.

5.4.2 Administrative Implications

The findings have direct implications for educational administration and policy design in the Maldives. The moderate levels of strategic and distributed leadership reported in the study suggest that school systems must strengthen the administrative infrastructure that enables coherent, evidence-based, and collaborative leadership practices.

At the ministerial and policy level, the results highlight the need for leadership frameworks that explicitly integrate both strategic planning and distributed engagement. Policymakers should institutionalize leadership standards that reward collaboration, mentorship, and professional learning, rather than merely administrative compliance. Embedding distributed leadership structures—such as teacher leadership teams, curriculum committees, and shared decision-making councils—within the

national school governance framework can ensure broader participation in instructional leadership.

At the school level, administrators should adopt data-driven strategic management processes. School improvement planning must be guided by systematic performance monitoring and professional learning audits that align teacher development priorities with institutional goals. Additionally, principals should be supported through targeted leadership development programmes that build strategic foresight, change management skills, and interpersonal capacities to foster collective efficacy.

The results also imply that administrative reforms should address the systemic barriers that limit effective distributed leadership in geographically dispersed schools. The decentralisation of school management should be complemented by clear accountability mechanisms, structured communication networks, and leadership capacity-building for middle managers and teacher leaders. By embedding strategic and distributed principles into administrative routines, Maldivian schools can enhance both efficiency and instructional quality.

5.4.3 Practical Implications

The study also offers several practical implications for teachers, principals, and educational stakeholders seeking to improve pedagogical practice and school performance. The high levels of Teachers' Pedagogical Skills (TPS) observed suggest that Maldivian teachers already possess strong foundational competencies, but sustained performance improvement depends on continuous professional learning and collaborative practice.

For principals and school leaders, the findings emphasise the practical necessity of aligning leadership behaviours with pedagogical outcomes. Leaders should prioritise instructional supervision, coaching, and professional dialogue to ensure that strategic objectives are consistently translated into classroom practice. This includes promoting peer observation, joint lesson planning, and data-informed teaching decisions.

For teachers, the results underscore the importance of active participation in professional learning communities that encourage innovation and reflection. The development of assessment literacy, inclusive pedagogy, and technology-enhanced instruction should be central to ongoing training initiatives. Encouraging teacher-led inquiry and collaborative problem-solving will strengthen the distributed leadership culture and enhance pedagogical quality.

Furthermore, educational authorities should invest in professional learning systems that link leadership development with teacher growth. Programmes that integrate school-based coaching, mentoring, and leadership shadowing can build the next generation of teacher leaders and foster a sustainable leadership pipeline. The results affirm that effective professional learning should be embedded, continuous, and collaborative rather than episodic or compliance-oriented.

In practice, this study demonstrates that the synergy between leadership and pedagogy—rather than the presence of leadership alone—produces sustained improvements in school performance. Therefore, leadership development, instructional design, and professional learning must be treated as interconnected components of a unified improvement strategy.

5.4.4 Islamization of Knowledge Implications

An additional implication of this study pertains to the Islamization of educational leadership knowledge within the Maldivian context. The findings reinforce the value of integrating Islamic ethical principles—such as *shura* (consultation), *amanah* (trust and accountability), *adl* (justice), and *ihsan* (excellence)—into leadership and pedagogical practice. These values resonate strongly with the principles of both strategic and distributed leadership, providing a culturally grounded framework for educational improvement.

From an Islamic epistemological perspective, leadership is not merely a managerial function but an *amanah* (moral responsibility) to guide others toward collective success and human flourishing. The emphasis on consultation and participatory decision-making aligns directly with the distributed leadership model, while the pursuit of excellence and accountability mirrors the strategic dimension of leadership. Embedding these principles into leadership training and school culture can strengthen the moral and spiritual coherence of the education system.

Moreover, the mediating role of teachers' pedagogical skills highlights the importance of *ilm* (knowledge) and *tarbiyyah* (holistic education) as instruments of transformation. Teachers, as moral exemplars, enact leadership values through their pedagogical practices, thereby shaping not only academic outcomes but also students' moral and spiritual development. By integrating Islamic ethical leadership with evidence-based pedagogical improvement, Maldivian schools can cultivate learning environments that promote intellectual excellence, social responsibility, and faith-based integrity.

Ultimately, the Islamization of leadership knowledge in education should not replace empirical inquiry but complement it by infusing moral purpose and ethical vision into educational administration and classroom practice. This study thus supports the development of an Islamic model of educational leadership that harmonises strategic rationality, collaborative stewardship, and moral accountability in pursuit of holistic school improvement.

5.5 LIMITATIONS OF THE STUDY

While this study provides meaningful contributions to the understanding of leadership, pedagogy, and school performance in the Maldivian secondary education context, several limitations should be acknowledged. These limitations relate to the methodological, contextual, and conceptual boundaries of the research, which may influence the interpretation and generalisation of the findings. Recognising these constraints is essential for situating the study within its proper scope and for guiding future inquiry.

5.5.1 Methodological Limitations

The first methodological limitation arises from the study's reliance on a cross-sectional research design. The data were collected at a single point in time, which restricts the ability to make strong causal inferences between Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers' Pedagogical Skills (TPS), and School Performance (SP). Although Structural Equation Modelling (SEM) enables robust testing of hypothesised relationships, it cannot capture the temporal dynamics or reciprocal influences that may evolve over time. Future research employing longitudinal or mixed-methods designs would provide a deeper understanding of how leadership practices and teacher development interact and change across academic cycles.

Another methodological limitation concerns the use of self-reported survey data. The perceptions of teachers and administrators were instrumental in providing insights into leadership and pedagogical dynamics, but such data are inherently prone to social desirability bias and subjective interpretation. Respondents may have unintentionally overestimated the effectiveness of leadership or teaching practices due to institutional loyalty, self-presentation, or professional pride. To enhance the validity and reliability of future research, perceptual data should be triangulated with classroom observations, student achievement records, or external performance assessments.

The sampling design presents another potential limitation. Although the study incorporated secondary schools from different atolls, participation was voluntary and subject to administrative consent. This introduces the possibility of self-selection bias, as schools with stronger leadership cultures or higher levels of organisational maturity may have been more inclined to participate. Consequently, the findings could over-represent more progressive schools while under-representing under-resourced or less developed institutions. Future research should aim for more randomised and inclusive sampling across diverse school types and geographic regions to ensure greater representativeness.

Finally, although the study applied advanced quantitative analysis methods, including confirmatory factor analysis and SEM, its exclusive reliance on quantitative data limited the exploration of nuanced, context-specific elements that shape leadership and pedagogical practice. Complementary qualitative approaches such as interviews, focus group discussions, and ethnographic inquiry could provide richer insights into how leadership is enacted and experienced within the distinctive social and cultural realities of Maldivian schools.

5.5.2 Contextual Limitations

The contextual realities of the Maldivian education system also impose limitations on the generalisability of this study's findings. The Maldives, as a small-island developing nation, has unique socio-geographic characteristics, decentralised administrative structures, and cultural norms that influence leadership behaviour and pedagogical interaction. These contextual elements differ considerably from those in larger or more resource-abundant education systems. Although the theoretical model demonstrated strong psychometric validity, its applicability to other contexts should be approached cautiously and with necessary adaptations.

The study's exclusive focus on secondary schools further limits its scope. Primary and higher education institutions in the Maldives may feature different leadership configurations, teacher skill profiles, and organisational dynamics. As a result, the leadership–pedagogy–performance relationships identified in this research may not fully reflect patterns across the entire education sector. Future studies should therefore expand the model to include other levels of schooling and institutional types to provide a more comprehensive understanding of leadership influence within the broader educational landscape.

Additionally, the cultural expectations surrounding leadership authority and teacher autonomy in the Maldives may shape the interpretation and implementation of distributed leadership. Traditional hierarchical norms and varying degrees of teacher empowerment can moderate the impact of distributed leadership on innovation and collaboration. Cross-cultural comparative studies involving countries with similar and

differing leadership cultures would help determine whether the observed relationships are unique to the Maldivian context or generalisable across other educational systems.

5.5.3 Conceptual Limitations

Conceptually, the study's operationalisation of leadership through the frameworks of strategic leadership and distributed leadership, while empirically robust, does not encompass the full range of leadership constructs found in the educational literature. Important dimensions such as instructional, transformational, or moral leadership were not explicitly included, even though these may interact with or reinforce SLP and DLP in influencing pedagogical quality. Future research could integrate these additional perspectives to produce a more multidimensional model of leadership influence on teaching and learning outcomes.

A further conceptual limitation concerns the measurement of school performance. Although the construct was evaluated through validated indicators, it primarily relied on perceptions and self-reported data rather than longitudinal performance metrics or objective measures such as student achievement scores. While perceptual data offer meaningful insights into organisational effectiveness, they may not fully reflect measurable academic results. Subsequent research should combine perceptual and objective indicators to enhance construct validity and better capture the multifaceted nature of school performance.

Lastly, although the mediation analysis confirmed the significant role of teachers' pedagogical skills, the model did not include potential moderating variables that might shape these relationships. Factors such as school size, leadership experience, resource availability, community engagement, and cultural values could all influence how leadership practices affect teaching and learning. Incorporating such variables in future research would allow for a more refined understanding of the conditional effects of leadership on educational outcomes.

5.5.4 Summary of Limitations

In summary, the study's limitations are primarily methodological, contextual, and conceptual. Methodologically, the cross-sectional design, reliance on self-reported data, and restricted sampling approach constrain causal inference and generalisability. Contextually, the small-island setting and secondary-school focus limit the application of the findings to broader educational contexts. Conceptually, the scope of leadership constructs and the use of perceptual measures for school performance narrow the model's comprehensiveness.

Despite these constraints, the study offers a rigorous, empirically validated model that deepens understanding of the interrelationships between leadership, pedagogy, and school performance in the Maldivian education system. Acknowledging these limitations provides a foundation for more nuanced, longitudinal, and multi-method research that can further illuminate how leadership practices transform teaching and learning in diverse educational environments.

5.6 RECOMMENDATIONS FOR FUTURE RESEARCH AND PRACTICE

Based on the study's findings, limitations, and theoretical implications, several recommendations are advanced for future research and educational practice. These recommendations aim to strengthen the leadership-pedagogy-performance relationship within Maldivian secondary schools and to guide the development of policies and programmes that enhance instructional and institutional effectiveness.

5.6.1 Recommendations for Future Research

Future research should adopt longitudinal and mixed-methods approaches to capture the evolving effects of leadership practices on teacher development and school performance over time. A longitudinal design would enable researchers to identify sustained causal relationships, while combining quantitative SEM approaches with qualitative methods such as interviews, focus groups, and case studies would enrich

understanding by uncovering the contextual and cultural dimensions that underlie statistical relationships.

The scope of investigation should also be expanded to include other educational levels. Since this study focused exclusively on secondary schools, further research should examine whether similar leadership–pedagogy–performance patterns exist in primary, higher secondary, and tertiary institutions. Comparative research could reveal how the mediating role of teachers’ pedagogical skills varies across educational levels, curriculum demands, and degrees of leadership maturity.

Researchers should consider integrating additional leadership constructs such as instructional, transformational, servant, and moral leadership. Combining these perspectives with strategic and distributed leadership would generate a more comprehensive framework for understanding how various leadership forms interact to shape teacher behaviour and school success, particularly within culturally embedded education systems.

To strengthen construct validity, future studies should use objective and multi-source performance data. Incorporating student achievement results, attendance records, inspection reports, and administrative performance audits alongside teacher and principal perceptions would provide a more holistic and accurate representation of school effectiveness while reducing self-report bias.

Further inquiry should also examine moderating and contextual variables, including school size, geographic location, leadership experience, teacher collaboration, and resource availability. Analysing these factors would clarify the conditions under which strategic and distributed leadership have the greatest influence on teachers’ pedagogical skills and school performance, particularly in dispersed and resource-diverse educational settings such as the Maldives.

Comparative and cross-cultural studies involving other small-island or developing nations would further enhance the external validity and adaptability of the model. Such research could reveal whether the leadership–pedagogy–performance dynamics identified in the Maldivian context are context-specific or broadly generalisable to other decentralised, resource-constrained educational systems.

Finally, future research should continue to expand Islamic educational leadership scholarship by exploring how Islamic principles such as amanah (trust), shura (consultation), and adl (justice) shape leadership behaviour, decision-making, and teacher development. Integrating these ethical and epistemological principles into leadership theory can help develop culturally grounded frameworks suited to other Muslim education systems, especially Maldives as it is a 100% Muslim Island Nation.

5.6.2 Recommendations for Educational Practice

Educational authorities should prioritise the strengthening of leadership development programmes. Structured leadership development pathways should be established to enhance competencies in both strategic and distributed leadership. Training should focus on instructional leadership, evidence-based decision-making, staff empowerment, and facilitation of professional learning. Regular leadership certification, mentoring, and coaching systems would sustain leadership growth and improve school governance capacity at multiple levels.

Schools should also institutionalise distributed leadership structures by creating teacher-led committees, subject panels, and shared decision-making councils. Encouraging teachers to participate in curriculum planning, assessment development, and professional learning activities will cultivate a culture of shared accountability, collaboration, and innovation.

Professional development for teachers should remain a core priority. Continuous school-based learning opportunities should focus on improving assessment literacy, inclusive pedagogy, technology integration, and reflective teaching practices. Such programmes should be sustained, contextually relevant, and aligned with each school's improvement goals rather than confined to short-term workshops.

Leadership and pedagogical capacity-building should be closely integrated. Training programmes for school leaders and teachers should be synchronised to ensure coherence between instructional objectives and school-level leadership initiatives. Joint workshops, collaborative lesson studies, and co-designed school improvement projects would help align leadership practices with classroom realities, thereby ensuring shared ownership of educational outcomes.

Schools should promote data-driven school improvement by adopting systems that monitor student achievement, teacher performance, and professional learning impact. Building capacity in data analysis and interpretation will enable leaders and teachers to make evidence-informed decisions, identify weaknesses, and implement targeted interventions that enhance both instructional and organisational performance.

A collaborative and trust-based school culture should also be fostered. Effective strategic and distributed leadership thrive in environments characterised by respect, transparency, and collegiality. Principals should promote open communication, recognise teacher contributions, and encourage joint problem-solving to cultivate morale, innovation, and sustained professional engagement.

Given the Maldivian context, it is essential to embed Islamic leadership values within school practice. Leadership programmes should integrate principles such as *ihsan* (excellence), *amanah* (accountability), and *shura* (consultation), ensuring that leadership remains both ethically grounded and spiritually aligned with the nation's educational philosophy. These values complement the participatory ideals of distributed leadership and enhance the moral coherence of educational practice.

Finally, policy-level support is crucial for sustaining improvement. The Ministry of Education should establish comprehensive frameworks that link leadership quality, teacher capacity, and school performance. Policy interventions should incentivise schools to adopt collaborative leadership structures, provide dedicated funding for ongoing professional learning, and implement evaluation systems that assess both leadership effectiveness and instructional quality.

In conclusion, the advancement of school performance in the Maldives depends on the integration of leadership and pedagogical development. Aligning strategic vision with distributed collaboration, and embedding continuous professional learning within leadership practice, will allow Maldivian schools to achieve enduring educational excellence. Future research and administrative initiatives should therefore focus on cultivating this synergy—where leadership empowers teaching, teaching enhances learning, and learning sustains institutional growth.

5.7 CONCLUSION

This study set out to examine the complex relationships among Strategic Leadership Practices (SLP), Distributed Leadership Practices (DLP), Teachers' Pedagogical Skills (TPS), and School Performance (SP) within the context of Maldivian secondary schools. Guided by five research questions and grounded in established theoretical frameworks, the study employed Structural Equation Modelling (SEM) to validate the hypothesised model and to analyse both the direct and mediating effects among the core constructs.

The findings reveal a compelling picture of a national education system characterised by strong pedagogical foundations and emerging leadership maturity. Descriptive analysis indicated that while teachers' pedagogical skills and school performance are high, both strategic and distributed leadership practices remain at moderate levels. This suggests that Maldivian schools have successfully developed instructional competence but continue to evolve toward institutionalising leadership practices that are fully strategic, collaborative, and systemically embedded.

The measurement model validation demonstrated excellent fit indices (CFI = 0.934; RMSEA = 0.069), confirming that the proposed constructs were both psychometrically robust and conceptually coherent. These results affirm that leadership and pedagogical constructs, derived primarily from Western theoretical foundations, retain validity and reliability within small-island and developing educational systems such as the Maldives.

The structural model results further established that both strategic and distributed leadership exert direct and significant influences on school performance. This underscores the importance of vision-driven, goal-oriented leadership and participatory collaboration in achieving educational success. Similarly, teachers' pedagogical skills were found to significantly predict school performance, reaffirming that instructional quality and professional competence remain the most powerful determinants of effective schooling.

Crucially, the analysis confirmed that teachers' pedagogical skills serve as a significant mediating variable between leadership practices and school performance. This finding aligns with the broader body of educational leadership literature, which emphasises that leadership affects student learning primarily through its impact on teaching quality and instructional capacity. In the Maldivian context, this result is particularly salient: while leadership infrastructure is still consolidating, the nation's investments in teacher professional development have created a strong foundation for translating leadership intent into improved classroom practice.

The theoretical implications of the study advance the discourse on leadership hybridity, demonstrating that strategic and distributed leadership are not mutually exclusive but mutually reinforcing dimensions of effective school management. Strategically coherent yet participatory leadership emerges as the most productive model for driving sustainable improvement in small, decentralised, and resource-constrained educational systems.

Administratively, the study provides a validated framework that policymakers and school leaders can use to monitor and strengthen leadership quality, pedagogical capacity, and performance outcomes. Practically, it highlights that enhancing leadership coherence, teacher empowerment, and data-informed decision-making are critical to sustaining progress in Maldivian secondary education.

The study also contributes to the Islamization of educational leadership knowledge, illustrating those principles such as *shura* (consultation), *amanah* (trust and accountability), and *ihsan* (excellence) naturally align with both strategic and distributed leadership paradigms. Embedding these values within educational practice provides a moral and spiritual foundation for continuous improvement, reinforcing that effective leadership in an Islamic context is both ethically grounded and pedagogically transformative.

Despite its methodological and contextual limitations—such as reliance on self-reported data and a cross-sectional design—the research offers a rigorous and contextually relevant contribution to the global literature on educational leadership and pedagogy. It provides a transferable model for other small-island or developing systems seeking to strengthen the connection between leadership, teaching quality, and performance outcomes.

In conclusion, this study demonstrates that the future of educational improvement in the Maldives lies in the dynamic interplay between strategic vision, distributed collaboration, and pedagogical excellence. Strengthening this triadic relationship through coherent policy, continuous professional development, and ethically informed leadership will be essential to achieving long-term educational sustainability. The findings affirm that when leadership empowers teaching and teaching advances learning, the collective result is a resilient, high-performing education system capable of meeting the aspirations of a modern and faith-inspired nation.

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APPENDIX A

SURVEY QUESTIONNAIRE



International Islamic University Malaysia (IIUM)

"STRATEGIC LEADERSHIP AND DISTRIBUTED LEADERSHIP OF SCHOOL LEADERS
MEDIATED BY PEDAGOGICAL SKILLS OF TEACHERS ON SCHOOL-PERFORMANCE OF
SECONDARY SCHOOL LEAVERS IN THE REPUBLIC OF MALDIVES".

Assalamualaikum w.b.t. and Greetings,

The purpose of this research is to examine the Influence of the Strategic Leadership and Distributed Leadership Practice of School Leaders mediated by Pedagogical Skills of Teachers on School-Performance of Secondary School Leavers in the Republic of Maldives. Kindly note that your response will remain confidential and anonymous and you have the right to withdraw at any time without consequence and your participation is not compulsory. Thank you for having generously taken your precious time to respond to this questionnaire. May Allah (SWT) bless you for having contributed to this academic research. Aameen.

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This questionnaire consists of **five (5)** sections;

Section A: Demographic Profiles of the Respondents

Section B: Strategic Leadership Practices

Section C: Distributed Leadership

Section D: Teachers' Pedagogical Skills

Section E: School Performance

SECTION A: DEMOGRAPHIC PROFILES (Mark ☒ in the appropriate box or write accordingly)

1. Gender: Male ☐ Female ☐

2. Age: 20–30 ☐ 31–40 ☐ 41–50 ☐ 51–60 ☐ 61–65 ☐

3. Highest Academic Qualification:

PhD ☐ Masters ☐ Bachelor Degree ☐ Diploma ☐

Other (Please specify):

.....

4. Nationality: Maldivian ☐ Expatriate ☐

5. Place of work: (Not mandatory)

.....

6. Number of years of service:

.....

7. Current Position: Principal

☐ Deputy Principal

☐ Leading Teacher

☐ Head of Department

☐ Administrator

☐ Other (Please specify):

.....

8. Number of years of experience in the current position:

.....

SECTION B: STRATEGIC LEADERSHIP PRACTICES

The following statements are designed to measure your **strategic leadership practices** in school as a leader (i.e., Principal, Deputy Principal, Leading Teacher, Head of Department, or Administrator).

Please indicate the extent to which you agree with each statement by circling or ticking the appropriate number.

Scale:

1 – Strongly Disagree 2 – Disagree 3 – Neutral 4 – Agree 5 – Strongly Agree

No.	Statement	1	2	3	4	5
Strategic Orientation						
SOT1	I generate organisational strategies together with my subordinates.					
SOT2	I share the organisational strategies with my subordinates.					
SOT3	I always remind my subordinates to strive/work hard for the development of the organization.					
SOT4	I take great concern towards the effectiveness and efficiency of the implementation of daily duties.					
SOT5	I align organizational programs with the strategic directions of the government.					
Strategic Translation						
STL1	I seek and propose new strategies to overcome weaknesses in the daily implementation of my subordinates' duties.					
STL2	I discuss and later make collective decisions with my subordinates relating to new strategies for the development of my organization.					
STL3	I suggest new ideas for the sake of organizational development and excellence.					
STL4	For each strategy outlined, I always make sure there is an action plan attached to it.					
STL5	I encourage and instil confidence in all my subordinates in implementing the strategic plan efficiently and effectively.					

Strategic Alignment						
SAL1	I practice interpersonal skills with my subordinates.					
SAL2	I motivate my subordinates to perform their duties excellently.					
SAL3	I encourage my subordinates that are excellent, apart from giving assistance to those who are less productive.					
SAL4	I showcase the organization's goals in places easily seen by my subordinates.					
SAL5	I remind my subordinates about the organizational goals in meetings.					
Strategic Intervention						
SIN1	I am able and smart in making adjustments to the strategic plans of my organization.					
SIN2	I am able to introduce or suggest new strategies to replace old and non-effective ones.					
SIN3	I am able to decide the appropriate amount of time to implement new strategies for the development of my organization.					
SIN4	If I feel my subordinates are deviating from organizational goals, I immediately correct it.					
Strategic Competence						
SCM1	I am able to identify the right person for specific work based on his/her capabilities.					
SCM2	I understand the important factors for enhancing the basic competencies of my organization.					
SCM3	I am able and willing to solve problems in my organization without blaming others.					
SCM4	I am able to utilize students' results (e.g., achievements) for improving their performance.					
SCM5	I am able to solve problems in the organization as a team through discussions with my subordinates.					

Restlessness					
RLS1	I always equip my subordinates and myself with necessary skills to manage the organization effectively and efficiently.				
RLS2	I encourage my subordinates to strive for the excellence of the organization.				
RLS3	I state my intention to work collectively with my subordinates to raise organizational development beyond excellence.				
RLS4	I provide opportunities for my subordinates to give opinions and comments that can enhance organizational excellence.				
RLS5	I look for new strategies to enhance the excellence of my organization.				
Adaptive Capacity					
ADY1	I am open to getting feedback about my organization through social media (e.g., Facebook, Twitter).				
ADY2	I am able to make significant strategic changes for the excellence of my organization.				
ADY3	I am ready to accept new ideas that can enhance the excellence of my organization.				
ADY4	I am flexible in my effort to enhance the excellence of my organization.				
ADY5	I apply creativity and flexibility in decision-making and problem-solving.				
Absorptive Capacity					
ABY1	I do not simply praise my subordinates.				
ABY2	I emphasize strongly on new information in enhancing organizational excellence.				
ABY3	I analyze new information from various sources to improve organizational performance.				
ABY4	I show initiative to learn from past mistakes.				

ABY5	After completing a program, I conduct a post-mortem session to improve future programs.					
ABY6	I emphasize learning from experience to sustain continuous improvement.					
Wisdom						
WSM1	I give immediate feedback to stakeholders whenever needed.					
WSM2	I show my intellectual wisdom.					
WSM3	I balance the interests of individual subordinates with the interest of the organization.					
WSM4	I can accommodate deadlines for implementation but still have a firm stand.					
WSM5	I abide by the values built together with my subordinates.					
WSM6	I apply my knowledge for the interest of my subordinates and the organization as a whole.					
WSM7	I am confident that organizational progress depends on close cooperation between subordinates and leaders.					
WSM8	I believe the roles played by subordinates help leaders improve the organization.					
WSM9	I am confident that collaboration between subordinates now and in the future leads to organizational excellence.					

SECTION C: DISTRIBUTED LEADERSHIP PRACTICES

The following statements are designed to measure your **distributed leadership practices** in school as a leader (i.e., Principal, Deputy Principal, Leading Teacher, Head of Department, or Administrator).

Please indicate the extent to which you agree with each statement by circling or ticking the appropriate number.

Scale:

1 – Strongly Disagree 2 – Disagree 3 – Neutral 4 – Agree 5 – Strongly Agree

No.	Statement	1	2	3	4	5
Quality Distribution of Support						
DSP1	I premise a long-term vision with my subordinates for our school.					
DSP2	I debate the school vision with my colleagues.					
DSP3	I compliment teachers for their hard work.					
DSP4	I help teachers to unleash their potential.					
DSP5	I explain my reason(s) to the teachers for criticisms.					
DSP6	I'm available after school hours to help teachers when assistance is needed.					
DSP7	I look out for the personal welfare of teachers.					
DSP8	It encourages me to pursue my own goals for professional learning.					
DSP9	It encourages me to try new practices consistent with my own interests.					
DSP10	I provide organizational support for teacher interaction at school.					
Quality Distribution of Supervision						
DSV1	I evaluate the performance of the staff.					
DSV2	I take the initiative to discuss with my subordinates to attend urgent issues from my observations of their work.					
DSV3	I support my staff with constructive comments on their supervision.					

DSV4	I'm involved in summative evaluation of teachers.					
DSV5	I'm involved in formative evaluation of teachers.					
DSV6	I supervise the teaching and learning process of classes in the absence of leading teachers while the classes are in progress.					
Cooperation in Leadership Team						
CLT1	There is a well-functioning leadership team in our school.					
CLT2	The leadership team tries to act as well as possible.					
CLT3	The leadership team supports the goals we like to attain with our school.					
CLT4	All members of the leadership team work in the same strain on the school's core objectives.					
CLT5	In our school, the right person occupies the right position, taking competencies into account.					
CLT6	Members of the management team divide their time properly.					
CLT7	Members of the leadership team have clear goals.					
Participative Decision-Making						
PDM1	Leadership is delegated for activities critical for achieving school goals.					
PDM2	Leadership is broadly distributed among the staff.					
PDM3	We have adequate involvement in the decision-making process.					
PDM4	There is an effective committee structure for decision-making.					
PDM5	Effective communication among staff is facilitated.					
PDM6	There is an appropriate level of autonomy in decision-making.					
PDM7	There is an effective level of collaboration in implementing decisions made.					

SECTION D: TEACHERS' PEDAGOGICAL SKILLS

The following statements are designed to measure the **level of teachers' pedagogical skills** in the school as a leader (i.e., Principal, Deputy Principal, Leading Teacher, Head of Department, or Administrator).

Please indicate the extent to which you agree with each statement by circling or ticking the appropriate number.

Scale:

1 – Strongly Disagree 2 – Disagree 3 – Neutral 4 – Agree 5 – Strongly Agree

No.	Statement	1	2	3	4	5
Care and Welfare						
CWF1	As a well-trained teacher, my goal is to show my students that I care about them as they are the reasons for the school and all of us.					
CWF2	Most teachers in this school believe that students' well-being is the most important.					
CWF3	I aspire to create deep personal relationships with each and every student as teachers are the second parents for students.					
CWF4	Building rapport is crucial to ensure that students are ready psychologically, emotionally, and physiologically to learn.					
CWF5	I always feel that I have had a successful day in school if I develop a better connection with students and their parents.					
CWF6	I really enjoy teaching and I teach with great enthusiasm, which increases the enthusiasm of student learning.					
Inclusion						
ICN1	I ensure that all my students are fully included in my class, rather than students feeling marginalized and alienated.					

ICN2	For me, inclusion is very important as it enhances the success of classroom teaching and learning.					
ICN3	I feel that I am making a significant educational difference in the lives of my students.					
ICN4	If I try really hard, I can make progress with even the most difficult and unmotivated students.					
ICN5	Classrooms are smooth and calm, with a high level of student participation.					
ICN6	Students are monitored in class and positively reinforced.					
Socialization						
SCZ1	I encourage children to abide by social norms and expectations regarding attitudes, values, and behaviour.					
SCZ2	I include factors beyond teaching subject content and apply hidden curriculum to inculcate value-based education.					
SCZ3	Teachers in this local community are well respected.					
SCZ4	In this school, teachers and students usually get on well with each other.					
Academic Support						
ASP1	If a student from this school needs extra assistance, the school provides it and discourages unbearable expenses on home tuition.					
ASP2	All teachers know how to prepare lesson plans well with appropriate teaching materials.					
ASP3	Teachers explicitly state learning goals.					
ASP4	Students are provided with opportunities to reflect on their learning.					
ASP5	Students are encouraged to make associations in learning, especially with prior knowledge for meaningful learning.					

ASP6	Students are encouraged for active and responsible learning with self and peer assessment.					
Social Education						
SED1	Students are taught pastoral curriculum such as moral education, citizenship, career planning, and health education.					
SED2	Effective teachers demonstrate the correct way to solve a problem.					
SED3	It is better when the teacher – not the student – decides what activities are to be done.					
SED4	My role as a teacher is to facilitate students' own inquiry.					
SED5	Students learn best by finding solutions to problems on their own.					
SED6	Instruction should be built around problems with clear, correct answers that most students can grasp quickly.					
SED7	Thinking and reasoning processes are more important than specific curriculum content.					

SECTION E: SCHOOL PERFORMANCE

The following statements are designed to evaluate the **school-based performance measures of secondary school leavers** via your perceptions as a leader (i.e., Principal, Deputy Principal, Leading Teacher, Head of Department, or Administrator).

Please indicate the extent to which you agree with each statement by circling or ticking the appropriate number.

Scale:

1 – Strongly Disagree 2 – Disagree 3 – Neutral 4 – Agree 5 – Strongly Agree

No.	Statement	1	2	3	4	5
Students' Sufficient Knowledge						
SKE1	All of my students can read, understand and write what they read or what they understand and feel.					
SKE2	All of my students can write short essays and understand what they write.					
SKE3	The ability to read, write and comprehend helps my students in their daily interactions with others.					
SKE4	All of my students can do the basic arithmetic operations (e.g., addition, subtraction, multiplication and division).					
SKE5	The ability to do arithmetic operations helps my students in their daily interactions with others.					
Students' Right Skills						
RSL1	Our students are able to organize entrepreneurial activities such as Canteen Day to hone their entrepreneurial skills.					
RSL2	Our students are able to establish school cooperatives managed directly by students to develop their entrepreneurial skills.					
RSL3	Our students are able to organize outdoor activities to attain life skills with Islamic values and high resilience.					
RSL4	In school, students organize activities that stimulate self-development, interpersonal skills and stress management.					
RSL5	Our students are able to organize activities to sharpen communication skills such as debates and public speaking.					
Students' Positive Attitude						
PAT1	My students' English language proficiency allows them to fulfil travelling needs and communicate politely.					
PAT2	My students' English language proficiency allows them to use questions and answers for simple topics.					
PAT3	My students' English language proficiency allows them to understand basic questions and speech.					

PAT4	My students' English language proficiency provides adequate vocabulary for communicating, reading and writing.					
PAT5	My school requires students to take an additional language subject besides Dhivehi and English.					
Students' Appropriate Values						
AVL1	All my students remember the five main principles (i.e., pillars) of Islam.					
AVL2	All my students are taught the importance of Islamic values in life.					
AVL3	All my students are taught the importance of socio-economic, family and democratic values in life.					
AVL4	My school recognizes the place of Islam in Maldivian community.					
AVL5	My school supports the development of individuals who understand and practice the Muslim faith.					

APPENDIX B

QUESTIONNAIRE

School Performance (SP). The boxplots revealed potential extreme outliers, which are indicated by asterisks (*) in Figures 4.1-4.4 below.

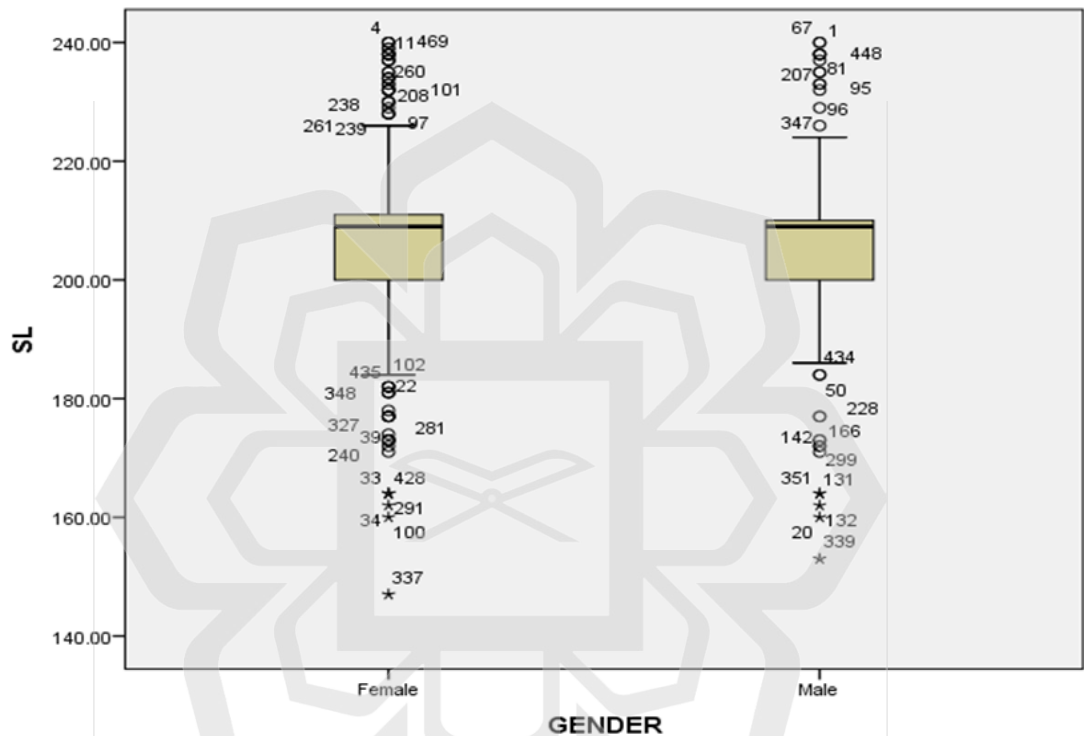


Figure 4.1 Box Plot for Strategic Leadership Outliers

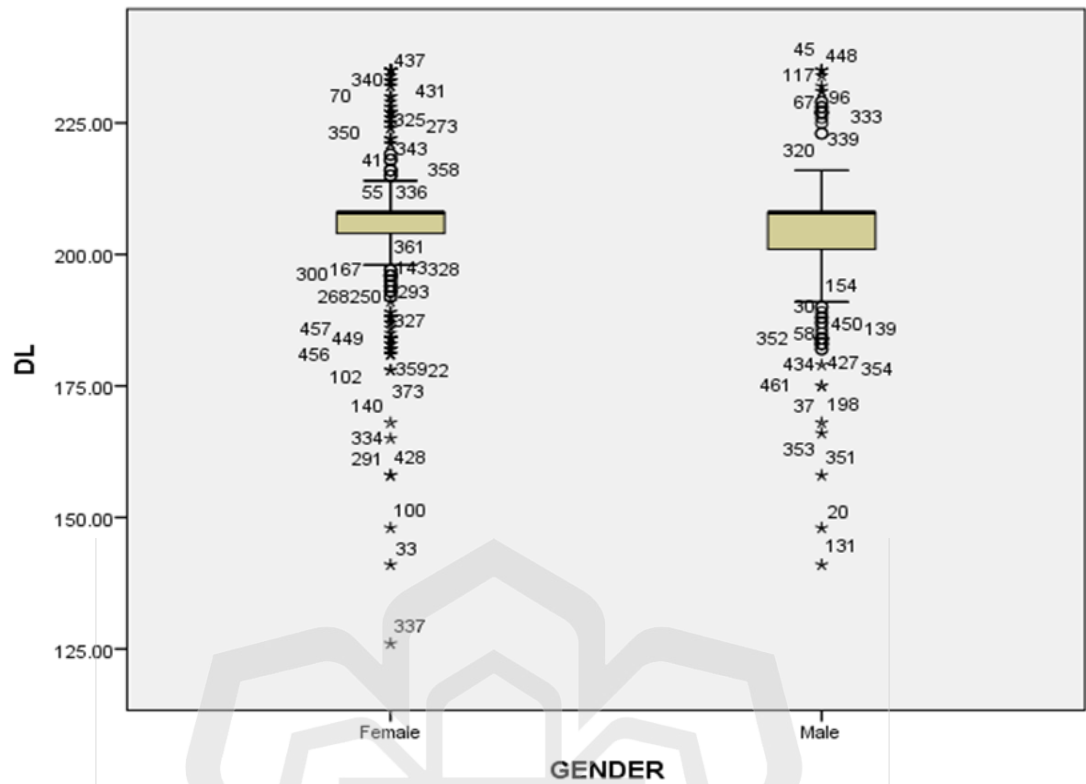


Figure 4.2 Box Plot for Distributed Leadership Outliers

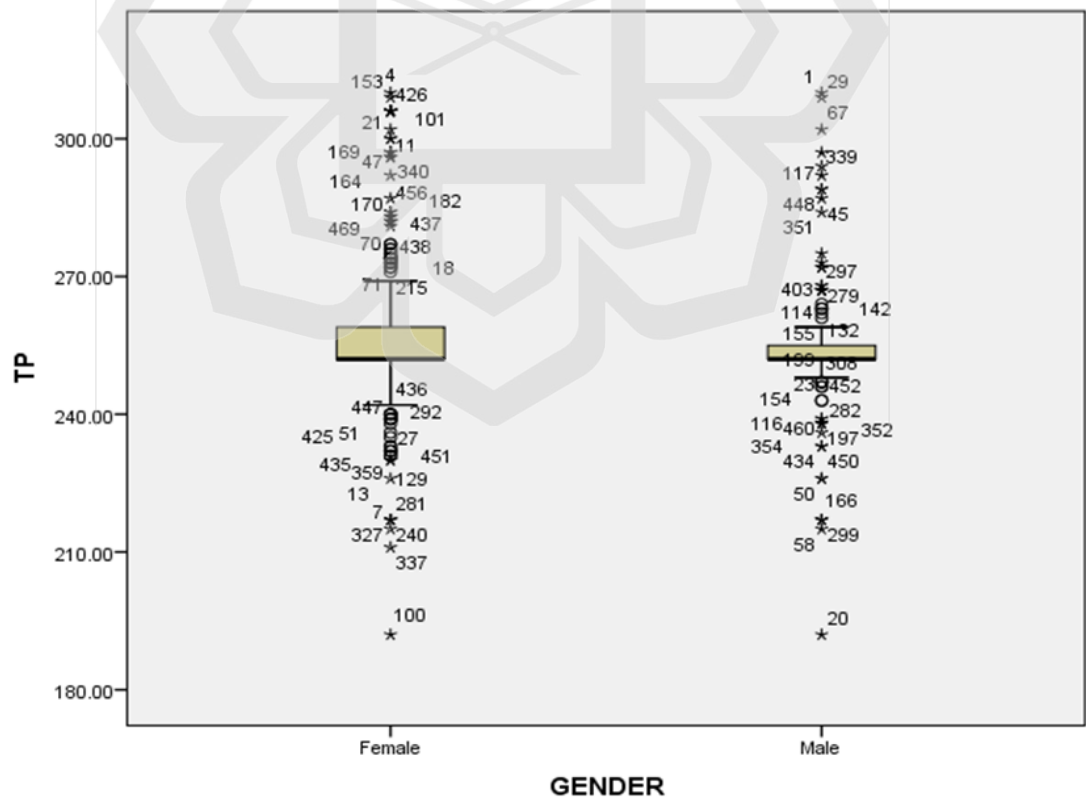


Figure 4.3 Box Plot for Teachers' Pedagogical Skills Outliers

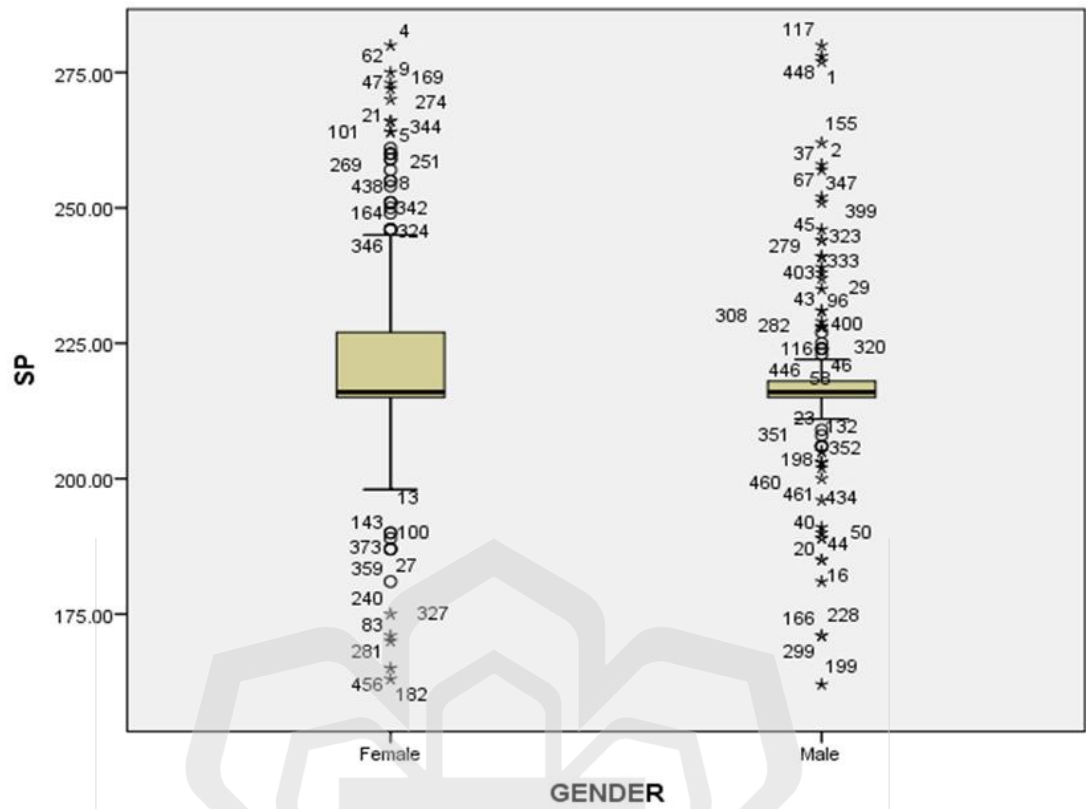


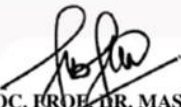
Figure 4.4 Box Plot for School Performance Outliers

Table 4.1a <i>Residuals Statistics (Multivariate Outliers Detection)</i>					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	195.6113	249.1800	219.33 16	6.13785	395
Std. Predicted Value	-3.865	4.863	.000	1.000	395
Standard Error of Predicted Value	.455	2.331	.754	.411	395
Adjusted Predicted Value	194.0254	248.7100	219.31 79	6.13852	395
Residual	-29.92682	33.43792	.00000	8.49639	395
Std. Residual	-3.509	3.921	.000	.996	395
Stud. Residual	-3.532	3.970	.001	1.007	395
Deleted Residual	-30.32414	34.29396	.01376	8.68449	395
Stud. Deleted Residual	-3.585	4.048	.002	1.014	395
Mahal. Distance	.123	28.439	2.992	4.621	395
Cook's Distance	.000	.163	.006	.017	395
Centered Leverage Value	.000	.072	.008	.012	395
Source: a. Dependent Variable (SP)					

Table 4.1b <i>Final Residuals Statistics (Multivariate Outliers Detection)</i>					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	204.5978	236.1875	219.268 8	4.86562	372
Std. Predicted Value	-3.015	3.477	.000	1.000	372
Standard Error of Predicted Value	.440	1.667	.733	.396	372
Adjusted Predicted Value	204.5552	236.4084	219.236 0	4.87346	372
Residual	-31.65501	33.47457	.00000	7.99899	372
Std. Residual	-3.941	4.168	.000	.996	372
Stud. Residual	-3.978	4.209	.002	1.008	372
Deleted Residual	-32.25282	34.26925	.03283	8.19325	372
Stud. Deleted Residual	-4.061	4.308	.004	1.017	372
Mahal. Distance	.114	14.990	2.992	4.210	372
Cook's Distance	.000	.182	.006	.019	372
Centered Leverage Value	.000	.040	.008	.011	372
Source: b. Dependent Variable SP					

APPENDIX C

APPROVAL LETTER TO CONDUCT RESEARCH

 الجامعة الإسلامية العالمية ماليزيا INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA Garden of Knowledge and Virtue		LEADING THE WAY KHALIFAH • AMANAH • IQRA' • SAHABATUN US-ALAMIN SUSTAINABILITY INSTITUTION OF THE YEAR
KULLIYAH OF EDUCATION		
Our Reference	:	IIUM/312/RNP/01/2
Date	:	27 th April 2022
H. Favites (First Floor) Medhuzyaaraimagu, Malé Republic of Maldives Post Code Number: 20097		
Assalamualaikum wrt. wbt.		
Dear Sir/Madam,		
PERMISSION TO CONDUCT RESEARCH AT YOUR OFFICE BY BR. AZLEEN AHMED (MATIC NO: G1630995)		
May this letter reach you while you are in the best of <i>imān</i> and health by the grace of Allah s.w.t.		
This is to certify that Br. Azleen Ahmed (Matric No: G1630995) is a Ph.D student at Kulliyah of Education, IIUM.		
Currently he is writing a thesis entitled <i>"The School Leaders' Strategic Leadership and Distributed Leadership influence on the School-Based Performance Measures of the Secondary School Leavers in the Republic of Maldives: Examining the mediating role of Teachers' Pedagogical Skills"</i> under the supervision of Prof. Dr. Hairuddin Mohd Ali. As part of the preparation, we would like to seek your good office to allow him to conduct the above mentioned research at your office.		
Any assistance rendered to him is greatly appreciated.		
Thank you. Wassalam.		
 ASSOC. PROF. DR. MASTURA BADZIS Deputy Dean (Postgraduate and Responsible Research) Kulliyah of Education International Islamic University Malaysia		
Note :	This letter is issued upon student's request.	
KULLIYAH OF EDUCATION (KOED) International Islamic University Malaysia, Jalan Gombak, 53100 Kuala Lumpur. (Company No: 101067-P) Tel: +603-6421 5331 / 5333 / 5334 / 5329 / 6356 / 6351 Fax: +603-6421 4851 / 5926 / 5927 / 6374 / 6375 Website: www.iiu.edu.my/educ 		

APPROVAL LETTER FROM THE MINISTRY OF EDUCATION-MALDIVES

Ministry of Education
Policy Planning and Research Division
Malé, Maldives

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



To Whom It May Concern

Approval for collecting information from Schools

This is to inform that Mr Azleen Ahmed (A070504), who is undertaking Doctor of Philosophy in Educational Management and Leadership at International Islamic University Malaysia (IIUM), has the permission to collect information required for his research project from all the secondary schools of Maldives.

Research Topic:

"The School Leaders' Strategic Leadership and Distributed Leadership influence on the School-Based Performance Measures of the Secondary School Leavers in the Republic of Maldives: Examining the mediating role of Teachers' Pedagogical Skills".

Main Objectives:

- To examine the direct influence of Strategic Leadership Practices (SLPs) and Distributed Leadership (DL) of secondary school principals in the Republic of Maldives on the Secondary School Leavers' School Performance (SP).
- To examine if the Pedagogical Skills (PS) of Secondary School Teachers mediate the influence of the Strategic Leadership Practices (SLPs) of Secondary School Principals on the school performance (SP) of secondary school leavers in the Republic of Maldives.

Data Needed: Questionnaires.

Participant/s:

Principals, Deputy Principals, Leading Teachers, HODs, Administrators and anyone in the leadership positions of all the secondary schools in the Maldives.

Please provide your assistance and support in collecting the information for the research.

10 May 2022



Note:

- The researchers should strictly follow the rules and regulations set by the HPA, the Ministry of Education and the schools. The researchers should have completed two doses of Covid vaccine 14 days prior to entering the school premises.
- The researcher must obtain prior approval from the school and Parents before conducting the research.
- The findings of the research should be shared with the Ministry of Education. statistics@moe.gov.mv

Velaanaage, 9th Floor, Ameer Ahmed Magu, Malé 20-096, Maldives
Tel: 332 3261, 332 3262 Fax: 332 1201

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ފޯން: 332 3261, 332 3262 ފެކްސް: 332 1201

APPENDIX D

QUESTIONNAIRE

The Population of the Leadership Group (Upper & Middle) in Secondary Schools of Maldives as of 2023.

NO	ATOLLS	SCHOOL CODE	SECONDARY SCHOOLS	NO. OF LEADERSH IP POSITIONS
1	Haa Alifu	GS76	Baarashu School	6
		GS08	Haa Alifu Atoll Education Centre	14
		GS87	Thakandhoo Ali Thakuru School	2
		GS85	Filladhoo School	4
		GS19	Haa Alifu Atoll School	8
		GS79	Ihavandhoo School	12
		GS78	Sheikh Ibrahim School (Kela)	5
		GS82	Maarandhoo School	5
		GS84	Molhadhoo School	3
		GS83	Muraidhoo School	5
		GS86	Thuraakunu School	4
		GS80	Uligamu School	3
		GS39	Ghaazee Bandaarain School	5
		GS81	Vashafaru School	4
		GS99	Finey School	4
		GS60	Hanimaadhoo School	9
		GS72	Afeefuddin School	16
		GS88	Hirimaradhoo School	3
		GS53	Jalaluddin School	11
		GS02	Haa Dhaalu Atoll Education Centre	15
		GS96	Kumundhoo School	6
		GS95	Kurin'bee School	4

NO	ATOLLS	SCHOOL CODE	SECONDARY SCHOOLS	NO. OF LEADERSH IP POSITIONS
2	Haa Dhaalu	GS97	Makunudhoo School	7
		GS92	Naivaadhoo School	4
		GS93	Nellaidhoo School	6
		GS91	Neykurendhoo School	4
		GS90	Nolhivaram School	10
		GS89	Nolhivaranfaru School	6
		GS20	Haa Dhaalu Atoll School	5
		GS103	Bileffahee School	5
		GS108	Feevaku School	5
		GS109	Sh. Feydhoo School	6
		GS107	Foakaidhoo School	7
		GS59	Funadhoo School	10
		GS110	Sh. Goidhoo School	5
		GS34	Shaviyani Atoll School	6
		GS9	Shaviyani Atoll Education Centre	5
3	Shaviyani	GS104	Lhaimagu School	5
		GS106	Maaun'goodhoo School	6
		GS212	Munavvaraa School	4
		GS69	Milandhoo School	10
		GS101	Narudhoo School	5
		GS102	Noomaraa School	4
		GS07	Noonu Atoll Education Centre	7
		GS35	Noonu Atoll School	7
		GS118	Fodhdhoo School	3
		GS111	Henbadhoo School	5
		GS47	Meyna School	7
		GS67	Ken'dhikulhudhoo School	8
4	Noonu	GS113	Kudafaree School	5
		GS119	Landhoo School	6

NO	ATOLLS	SCHOOL CODE	SECONDARY SCHOOLS	NO. OF LEADERSH IP POSITIONS
5	Raa	GS112	Lhohee School	4
		GS115	Maafaru School	5
		GS114	Maalhendhoo School	5
		GS117	Noonu. Magoodhoo School	4
		GS116	Hidhaya School	6
		GS57	Hulhudhuffaar School	7
		GS124	Inguraidhoo School	7
		GS123	Innamaadhoo School	4
		GS122	Kinolhahu School	4
		GS127	Maakurathu School	5
		GS128	Maduvvaree School	7
		GS15	Raa Atoll Education Centre	9
		GS121	Rasgetheemu School	4
		GS120	Rasmaadhoo School	4
		GS126	Vaadhoo School	4
		GS210	Ungoofaar School	7
		GS68	Alifushi School	7
		GS125	Angolhitheem School	4
		GS18	Raa Atoll School	6
		GS129	Fainu School	3
		GS136	Fehendhoo School	2
		GS01	Baa Atoll Education Centre	11
		GS33	Baa Atoll School	5
		GS138	Dhonfanu School	3
		GS137	Fulhadhoo School	3
		GS139	Baa. Goidhoo School	4
		GS130	Hithaadhoo School	5
		GS133	Kamadhoo School	3
6	Baa	GS132	Kendhoo School	5

NO	ATOLLS	SCHOOL CODE	SECONDARY SCHOOLS	NO. OF LEADERSHIP POSITIONS
7	Lhaviyani	GS131	Kihaadhoo School	4
		GS134	Kudarikilu School	4
		GS135	Baa. Maalhohu School	5
		GS56	Thulhaadhoo School	7
		GS140	Olhuvelifushi School	5
		GS22	Lhaviyani Atoll Education Centre	10
		GS21	Lhaviyani Atoll school	5
		GS51	Madhrasathul Ifthithaah	15
		MUH	Muhyiddin School	13
		GS	Ghaazee School	23
		RS	Rehendhi school	29
		PS01	Brightway International School	23
		HUR	Huravee School	31
		ISK	Iskandhar School	19
		JS	Jamaluddin School	25
		TS	Thaajuddeen School	20
		KS	Kalaafaanu School	20
		IM	Imaduddin School	18
		AS	Aminiya School	27
		MS	Majeediyya School	19
		DS	Dharumavantha School	10
		HS	Hiriya School	19
		MAI	Arabiyyathul Islaamiyya School	12
		GIS	Ghiyasuddin International School	24
8	Kaafu	CHSE	Centre for Higher Secondary Edu...	24
		AHIS	Ahmadhiyya International School	41
		PS02	Billabong High EPS Int’nal School	21
		GS14	Kaafu Atoll Education Centre	6
		IZS	I'zzudhdheen School	10

NO	ATOLLS	SCHOOL CODE	SECONDARY SCHOOLS	NO. OF LEADERSHIP POSITIONS
9	Alifu Alifu	VIHS	Villa International School	26
		SS	Salaah'uddin School	30
		GS144	Dhiffushi School	5
		GS147	Gaafaru School	6
		GS146	Gulhee School	5
		GS145	Guraidhoo School	7
		GS141	Himmafushi School	6
		GS142	Huraa School	7
		GS36	Kaafu Atoll School	8
		GS143	Maafushi School	9
		GS149	Bodufolhudhoo School	5
		GS32	Alifu Alifu Atoll School	4
		GS148	Himandhoo School	5
		GS151	AA. Maalhohu School	4
		GS152	Mathive ri School	5
		GS40	Alifu Alifu Atoll Education Centre	6
		GS66	Thoddoo School	8
		GS150	Ukulhahu School	6
		GS158	Dhangethi School	5
		GS160	Dhigurah School	4
10	Alifu Dhaalu	GS157	Fenfushee School	6
		GS153	Hangnaameedhoo School	4
		GS154	Kun'burudhoo School	4
		GS42	Alifu Dhaalu Atoll School	10
		GS10	Alifu Dhaalu Atoll Education Centre	10
		GS159	Dhidhdhoo School	2
		GS156	Mandhoo School	2
		GS155	Adh. Omadhoo School	5
		GS38	Vaavu Atoll Education Centre	4

NO	ATOLLS	SCHOOL CODE	SECONDARY SCHOOLS	NO. OF LEADERSH IP POSITIONS
11	Vaavu	GS12	Vaavu Atoll School	2
		GS70	Keyodhoo School	5
		GS23	Meemu Atoll Education Centre	5
		GS25	Meemu Atoll School	5
		GS166	Mulaku School	7
		GS168	Dhiggaru School	5
12	Meemu	GS164	Raiymandhoo School	1
		GS163	Naalaafushi School	3
		GS165	Veyvashu School	2
		GS167	Meemu. Maduvvaree School	2
		GS11	Faafu Atoll School	7
		GS37	Faafu Atoll Education Centre	9
		GS71	Faafu. Magoodhoo School	5
13	Faafu	GS172	Rin'budhoo School	2
		GS169	Bilehdhoo School	5
		GS170	Dharanboodhoo School	4
		GS24	Dhaalu Atoll Education Centre	12
		GS31	Dhaalu Atoll School	4
		GS171	Hulhudheli School	4
14	Dhaalu	GS173	Bandidhoo School	4
		GS172	Rinbudhoo School	2
		GS175	Maaen'boodhoo School	4
		GS04	Thaa Atoll Education Centre	5
		GS27	Thaa Atoll School	7
		GS181	Dhiyamigili School	5
		GS55	Kinbidhoo School	5
		GS63	Veymandoo School	6
		GS64	Hirilandhoo School	5
		GS65	Vilufushee School	6

NO	ATOLLS	SCHOOL CODE	SECONDARY SCHOOLS	NO. OF LEADERSH IP POSITIONS
15	Thaa	GS176	Burunee School	4
		GS177	kan'doodhoo School	4
		GS179	Vandhoo School	2
		GS180	Madifushi School	5
		GS178	Th. Omadhoo School	4
		GS182	Gaadhiffushi School	2
		GS17	Laamu Atoll Education Centre	11
		GS17	Laamu Atoll Education Centre	11
		GS28	Laamu Atoll School	4
		GS49	Maavashu School	6
		GS52	Hamad Bin khaleefa Al Thani School	10
		GS215	Ihaddhoo School	7
		GS183	Laamu. Hithadhoo School	6
16	Laamu	GS184	Kunahandhoo School	4
		GS186	Isdhoo School	5
		GS187	Kalaidhoo School	4
		GS188	Mundoo School	2
		GS189	Maamendhoo School	5
		GS190	Dhanbidhoo School	4
		GS05	Gaafu Alifu Atoll Education Centre	11
		GS29	Gaafu Alifu Atoll School	5
		GS199	Dhaandhoo School	6
		GS200	Sulthan Mohamed School	4
	Gaafu	GS202	Gemanafushi School	7
17	Alifu	GS197	Kanduhulhudhoo School	5
		GS196	Kondey School	2
		GS198	Ga. Maamendhoo School	6
		GS195	Nilandhoo School	4
		GS26	Gaafu Dhaalu Atoll Education Centre	10

NO	ATOLLS	SCHOOL CODE	SECONDARY SCHOOLS	NO. OF LEADERSH IP POSITIONS
18	Gaafu	GS30	Gaafu Dhaalu Atoll School	7
		GS208	Huvadhoo School	6
	Dhaalu	GS207	Madaveli School	7
		GS203	Hoadedhdhoo School	6
		GS204	Nadella School	5
		GS205	Rathafandhoo School	4
		GS209	Fiyoaree School	5
19	Gnaviyani	GS206	Vaadhoo Jamaluddin School	5
		GS13	Gnaviyani Atoll Education Centre	9
		GS44	Fuvammulaku School	7
		GS48	Mohamed Jamaluddin School	12
		GS74	Hafiz Ahmed School	10
		GS45	Seenu. Feydhoo School	10
		GS16	Seenu Atoll School	10
		GS43	Sharafuddin School	16
20	Seenu	GS03	Seenu. Hithadhoo School	15
		GS211	Nooraanee School	8
		GS213	Hira School	9
		GS62	Maradhoo School	9
		GS41	Irushadhiyya School	7
		GS58	Addu High School	11
Total No. of Leadership Positions Under the Study				1641

Source: Secondary School Data, Ministry of Education, (2024).

APPENDIX E

MAP OF MALDIVES

