

Article

The Relationship Between Distributed Leadership and School Management Process among Primary School Teachers in Sarawak

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Abstract: Distributed leadership is recognised as a systematic approach that enhances the quality of education and increases the effectiveness of school management. When leadership is distributed, leaders and subordinates develop greater mutual trust and perform their responsibilities more efficiently, thereby strengthening overall school management. This leadership style also helps to reduce the gap between leaders and staff, promotes loyalty, and nurtures a stronger sense of belonging within the organisation. Despite these benefits, empirical research on distributed leadership among teachers remains limited and underexplored. This study aims to investigate the relationship between distributed leadership and the school management process. A quantitative survey design was employed, using a structured questionnaire to collect data from 450 primary school teachers in Sarawak selected through cluster random sampling. Data were analysed using SmartPLS version 4.0. The findings indicate a significant relationship between distributed leadership and the school management process. These results have practical implications for the Ministry of Education, particularly for inspectorate and supervisory units, in assessing school efficiency and leadership capacity by incorporating factors that enhance the school management process among primary school teachers in Sarawak. Furthermore, this study contributes to the body of knowledge on how distributed leadership shapes the effective management of school organisations.

Keywords: Leadership distributive; management process; teachers, SEM-PLS; primary school

Introduction

To improve the quality of education in Malaysia, policymakers and practitioners must scrutinize school leadership practices, particularly in primary schools, where foundational learning begins. Leadership shapes teacher quality, school effectiveness, and student outcomes, which are the primary levers that commonly drive system improvement. However, schools unevenly translate national reform priorities into daily practice. This inconsistency reflects a deeper issue in how leadership functions are conceptualized and operationalized within the Malaysian school context. Understanding the theoretical underpinnings of leadership distribution and its relationship to management processes is therefore essential for improving implementation at the school level.

The Malaysia Education Blueprint 2013–2025 elevates leadership development and promotes collaborative, inclusive approaches that move schools beyond hierarchical routines toward practices aligned with global standards and local needs. Within this policy framework, a distributed leadership perspective highlights how educators share leadership responsibilities to mobilize people and resources in support of teaching and learning. Distributed Leadership Theory provides a theoretical lens for this study, emphasizing

that leadership is a collective social process rather than an individual act (Spillane, 2006; Gronn, 2002; Harris, 2013). This theory aligns with the Malaysian policy direction that encourages collegiality, shared responsibility, and professional collaboration among school actors.

In this study, we conceptualize distributed leadership following Gordon (2005), who defines it as the purposeful distribution of leadership work across school actors and specifies multiple dimensions that structure how schools share leadership functions. Consistent with this perspective, and in dialogue with widely cited scholarship on distributed leadership (Spillane, 2006; Gronn, 2002; Harris, 2013), we foreground interaction, expertise, and collective responsibility rather than position alone. We also draw on school management processes (i.e., planning, organizing, leading, and controlling) as a complementary lens for examining how schools enact leadership in practice (Stoner et al., 1995). The Management Process Model (Stoner et al., 1995) provides the procedural foundation for organizing, executing, and evaluating leadership actions. Conceptually, this model is grounded in Distributed Leadership Theory, which describes how leadership is shared among individuals and the management process that guides these actions. Integrating these two frameworks, therefore, establishes a comprehensive theoretical base linking leadership behavior with effective school management.

By integrating these perspectives, we empirically test whether, and how, distributed leadership practices align with stronger management routines that link reform goals to daily operations and measurable results. This integration not only strengthens the theoretical justification for the study but also clarifies the research problem. Despite national efforts to promote shared leadership and efficient management, there remains a limited understanding of how these two domains interact to improve school performance in diverse Malaysian contexts.

Accumulating evidence links distributed leadership to trust, teacher morale, collaboration, and improved organizational performance, including in Malaysian contexts (Zuraidah et al., 2014; Jamail, 2020; Choi, 2023). Prior studies also show that effective school management depends on principals and middle leaders who mobilize teachers and resources toward shared goals (Liu & Watson, 2023; Nadeem, 2024). However, researchers have produced limited evidence specific to Sarawak, despite its diverse school contexts and varying leadership capacities across geographic zones. This gap suggests that the relationship between distributed leadership and school management remains empirically underexplored in Sarawak's unique sociocultural and administrative landscape.

Addressing this gap advances scholarship and practice by informing leadership development, guiding capacity-building investments, and helping schools align their management routines with national policy expectations. Accordingly, we examine the relationship between distributed leadership practices and school management processes among primary school teachers in Sarawak.

Educational Leadership and Organizational Effectiveness

Educational leadership involves individuals influencing others to achieve shared goals while cultivating a favorable organizational climate. Ntombela (2011) argues that leaders shape individual and group behavior by aligning their efforts with organizational objectives. Leaders rely on authenticity, inspiration, and a commitment to doing what is right (Ramrathan, 2017). Effective leadership differs from mere positional authority; it rests on specific talents and capabilities rather than formal power or status (Spaull, 2013).

Leadership plays a crucial role in determining an organization's success. Leaders adapt their leadership style to the situational context (Shin et al., 2011). Effective management plans, organizes, leads, and controls the efforts of organizational members and the use of resources to achieve established goals (Stoner, 1991). Specifically, effective management integrates planning, leading, controlling, and organizing as a comprehensive process (Esah Sulaiman, 2003). Schools that develop and integrate these processes strengthen management; schools that manage education inefficiently do not attain excellence.

Leadership differentiates successful from unsuccessful institutions, and leaders drive organizational progress and change by fostering effective collaboration in organizational activities. Effective management improves individual job performance (Pradeep & Prabhu, 2011; Thamrin, 2012) and maximizes employee efficiency. Leaders also develop human capital to cultivate strong personal qualities and competitiveness in a

global environment (Mohd Shafie Afdal, 2013). These priorities align with the Malaysia Education Blueprint (PPPM) 2013–2025, which seeks to enhance the quality of human capital and elevate the education system to higher levels of effectiveness and efficiency (Muhyiddin Yassin, 2013). Consequently, excellence in the national education system depends on leadership excellence (Kantrowitz & Wingert, 2000).

Distributed Leadership (DL) as a Shared Model of Leadership

Distributed leadership (DL) frames leadership as shared responsibility and collaboration among organizational members (Spillane, 2006). It invites both formal leaders and informal influencers within the school community to assume leadership roles (Harris, 2002). By distributing decision-making tasks and responsibilities among staff, schools manage rising workloads and foster a culture of collective ownership in school development (Meng et al., 2019; Lai et al., 2019). The approach proves particularly relevant in schools where leaders face substantial administrative demands (Hulphia & Devos, 2009; Thien, 2019).

DL leverages teachers' diverse skills and perspectives (Bush, 2011; Leithwood et al., 2006). When schools distribute responsibilities, leaders foster greater trust and enhance staff morale, thereby strengthening overall management effectiveness (Zuraidah et al., 2016; Jamail, 2020). DL not only responds pragmatically to the administrative demands of modern schooling but also advances educational quality and organizational performance. Despite these benefits, researchers have produced limited evidence on DL, particularly among teachers, and should pursue further exploration (Tsu, 2019; Poh & Mei, 2021).

School Management Processes

Effective school management enables organizations to achieve their goals. Observers can gauge management effectiveness through academic and co-curricular achievement, student discipline, and the quality of school administration (Hamidah & Kong, 2014; Hassan & Hamzah, 2020). Leaders design the management process as a structured system based on principles and rules and sustain attention to ensure teams meet goals within set timelines (Mohd Hanif et al., 2015). Accordingly, stakeholders should prioritize effective school management (Norashikin et al., 2017; Baba & Duerama, 2022).

Regarding teacher involvement, school administrators, particularly headteachers, encourage teachers to exercise professional judgment in managerial decision-making (Isa et al., 2022). Teachers who demonstrate positive growth and competence in articulating their views (Zhang, 2024), alongside trust and constructive behaviors (Anwar, 2022), enhance school quality and effectiveness. In practice, DL strengthens teachers' confidence in decision-making and their capacity to perform tasks professionally and efficiently, thereby improving management effectiveness and ensuring that management processes operate smoothly.

Distributed Leadership and Management Processes

Distributed leadership (DL) distributes responsibility within educational management (Bush & Ng, 2019). Taole (2013) argues that effective school leadership underpins a nation's education system and that DL facilitates the implementation and management of curriculum change. Ramrathan (2017) likewise contends that leadership sustains meaningful change within school environments. Through a literature-based inquiry, Rabindarang and Arjunan (2021) examined the effectiveness of DL in managing education and concluded that DL practices enhance organizational excellence. Collectively, these studies show that DL strengthens management effectiveness and improves performance and institutional excellence in educational settings.

Taole (2013) further emphasizes that principals' leadership capabilities motivate educators to establish a robust learning culture, an antecedent to improved student outcomes. School culture provides a critical lens for understanding leadership. Drawing on evidence from the Advanced Certificate in Education-School Management and Leadership (ACE-SML), Bush and Oduro (2006) argue that culture, alongside organizational climate, differentiates effective from ineffective schools: both culture and climate shape teacher morale, parental and community engagement, and student achievement. Because scholars often conflate these constructs, Gruenert (2005) urges school leaders to clearly distinguish between them to diagnose issues and design appropriate interventions. He posits that climate offers the most immediate lever for shaping culture; therefore, leaders who seek cultural change should begin with a systematic assessment of school climate.

Empirical studies continue to link DL with excellence in educational management (Marlia et al., 2019; Bush et al., 2018). By distributing decision-making and responsibility, DL advances progress toward a school's vision and mission and justifies and realizes continuous quality improvement (Marlia et al., 2019). Accordingly, DL enhances the effectiveness of educational management by strengthening organizational excellence, performance, and overall quality. Recent Malaysian evidence also indicates that leadership styles are associated with organizational commitment (Nor & Ishak, 2023) and that teachers' continuous professional development practices are positively related to the quality of teaching and learning processes in Sarawak primary schools (Ambon et al., 2024).

This study hypothesizes a relationship between distributed leadership and school management processes. This study grounded in Distributed Leadership Theory, which conceptualizes leadership as a shared practice rather than the function of a single individual (Spillane, 2006). Within this perspective, leadership emerges from interactions among leaders, followers, and their organizational context, making it especially apt for understanding school management in complex educational environments, such as those in Sarawak. Distributed leadership enables teachers and other school actors to assume leadership roles, fostering collaborative problem-solving, trust, and a stronger sense of collective responsibility—all of which are essential for effective school management.

In addition, the study draws on Transformational Leadership Theory (Bass, 1985) to explain how leaders inspire and influence teachers toward a shared vision. Transformational leadership complements the distributed model by emphasizing the emotional support, motivation, and developmental guidance that school leaders provide to enhance performance and drive organizational change. Together, these lenses provide a coherent framework for examining how leadership practices influence school management processes.

Methodology

Research design

We adopt a quantitative research design to examine the relationship between distributed leadership and school management processes. A quantitative approach enables us to collect numerical data and analyze it statistically to identify significant associations (Creswell, 2014). This approach is particularly suitable for leadership and school management research, where researchers can generalize their findings to broader populations with greater reliability (Bryman, 2016). A quantitative survey also enables us to gather perspectives from a large number of respondents within a short timeframe, thereby supporting reliability and replication (Cohen et al., 2018). Consistent with Hair et al. (2019), we pair the quantitative design with PLS-SEM to provide a robust means of testing theoretical frameworks in education and the social sciences.

Population and sampling

We define the population as primary school teachers in Sarawak. To address the state's geographical diversity and uneven teacher distribution, we employ stratified random sampling to secure balanced representation from the southern, central, and northern zones, thereby improving external validity and reducing sampling bias (Sekaran & Bougie, 2019). A total of 450 teachers participated. This sample size meets statistical guidance for PLS-SEM, which recommends at least ten times the number of indicators in the most complex construct, or a minimum of ~200 respondents (Kock & Hadaya, 2018). By exceeding these thresholds, we enhance parameter precision, reduce sampling error, and obtain more stable estimates (Hair et al., 2019). The choice of 450 respondents also enables subgroup comparisons across zones, strengthening the relevance of the findings to the Sarawak context.

Instruments

We used two validated questionnaires. We measured distributed leadership with the Distributed Leadership Readiness Scale (DLRS) developed by Elmore (2000) and refined by Gordon (2005). Zoolaiha (2015) translated and culturally adapted the instrument into Malay to ensure linguistic and cultural appropriateness, thereby supporting content validity and comparability with prior studies (DeVellis, 2017). We measured

school management processes using an instrument adapted from Mohd Izham and Norziana (2015), based on Mohd Najib (2007) and anchored in the Stoner et al. (1995) management model (planning, organizing, leading, and controlling). The instrument demonstrated excellent internal consistency (Cronbach's alpha = 0.958), exceeding the conventional 0.70 threshold (Nunnally & Bernstein, 1994). All items used a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), a standard and respondent-friendly format in the social sciences that balances response clarity with statistical sensitivity (Joshi et al., 2015).

Data analysis

We analyzed the data using SPSS v29 and SmartPLS v4. We used SPSS for initial data cleaning and SmartPLS to estimate the structural equation model and test the hypothesized relationships between distributed leadership and school management processes. PLS-SEM suits complex models and does not require multivariate normality—an advantage in educational research (Hair et al., 2020; Sarstedt et al., 2022). Researchers widely apply PLS-SEM in the social sciences for moderate sample sizes while maintaining explanatory power (Rigdon et al., 2017). We evaluated the measurement model systematically. We assessed reliability using Cronbach's alpha and Composite Reliability (CR), adopting ≥ 0.70 as the criterion for satisfactory internal consistency (Nunnally & Bernstein, 1994; Hair et al., 2019). We examined convergent validity via factor loadings and Average Variance Extracted (AVE), with $AVE \geq 0.50$ indicating adequate convergence (Fornell & Larcker, 1981). We evaluated discriminant validity using the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio, both widely recommended to ensure empirical distinctiveness among constructs (Henseler et al., 2015). We then assessed the structural model using path coefficients, explained variance (R^2), effect sizes (f^2), and predictive relevance (Q^2) to test the study's hypotheses. This staged procedure strengthens the robustness, credibility, and validity of the findings (Hair et al., 2019; Sarstedt et al., 2022).

Ethical considerations

This study used secondary, aggregated school-level and teacher-level survey data for research purposes only. Participation was voluntary, and respondents were informed about the study purpose, confidentiality, and their right to withdraw at any time. No personally identifiable information was reported; data were anonymized and stored securely, with access limited to the researchers. All procedures followed institutional research ethics requirements and relevant data protection guidelines.

The Findings

The demographic profile comprises seven categories, including gender, age, highest academic qualification, teaching experience, position, school location, and district. The sample included 450 primary school teachers in Sarawak. The sample included 450 primary school teachers in Sarawak. Regarding gender distribution, 222 (49.3%) male teachers and 228 (50.7%) female teachers participated in this study. In terms of age distribution, teachers aged 31–40 years constituted the majority, with 164 individuals (36.4%) in the study sample, followed by teachers aged 41 to 50 years, totaling 142 individuals (31.6%), and 86 individuals (19.1%) aged between 51 and 60 years. The study sample included 58 individuals (12.9%) aged 21 to 30 years in this study cohort. Regarding highest academic qualifications, among participating teachers overall, most teachers held a bachelor's degree, totaling 372 (82.7%); 49 teachers held a master's degree (10.9%), and one individual held a PhD (0.2%). Additionally, 14 teachers held diploma qualifications (3.1%), and the sample included STPM and SPM holders equally, with seven individuals from each group (1.6%) in the present analysis. Additionally, 14 teachers held diploma qualifications (3.1%), and teachers with STPM and SPM qualifications were equally represented, with seven individuals each (1.6%). The teachers participating in this study had varying levels of teaching experience: 166 individuals (36.9%) had 11 to 19 years of experience, followed by 120 individuals (26.7%) with 20 to 30 years of experience, and 88 individuals (19.6%) with 5 to 10 years of experience. Furthermore, 24 (5.3%) teachers had 31 years of teaching experience, while 52 (11.6%) had less than 5 years of teaching experience.

The analysis of the conceptual model

The conceptual model of this study was examined using Partial Least Squares Structural Equation Modeling (PLS-SEM). The reliability and validity of the measurement model and the structural model were also evaluated for their significance and overall fit. Partial least squares structural equation modeling (PLS-SEM), also known as SEM, is a path modeling software based on variance maximization that does not assume data normality. It also achieves adequate statistical power with small sample sizes, and this methodology is frequently employed by social science researchers (Afthanorhan, 2013; Henseler et al., 2009; Ringle et al., 2012). This statistical method has gained increasing prominence in recent years, as evidenced by numerous research studies that have utilized the PLS technique (Umrani et al., 2018; Sabiu et al, 2018).

Evaluation of measurement model

We first conducted analyses of validity and reliability measures. We used Cronbach’s alpha and composite reliability (CR) to assess the internal consistency of the constructs rigorously. Hair et al. (2017) posited that the CR value should exceed 0.7; the same criterion applies to Cronbach’s alpha measure. Table 1 shows that all constructs in this study met the requirements for internal consistency standards. Subsequently, we evaluated convergent validity by examining the average variance extracted (AVE) for each construct, adopting a threshold of a minimum 0.5 AVE score (Fornell & Larcker, 1981) criterion. Table 1 indicates that the present study successfully fulfilled this criterion. We assessed indicator reliability through item loadings (Hair et al., 2013; Umarani et al., 2018; Ahmed et al., 2017), respectively. Table 1 shows that we retained items with loadings of 0.5 or above (Hulland, 2014).

In addition to these validity measures, we assessed discriminant validity to evaluate correlations among constructs, following the approach of Ringle et al. (2010), which guides comparative construct assessment procedures. We applied the Fornell–Larcker (1981) criterion to evaluate the discriminant validity of the constructs here. Table 2 shows that the square root of Average Variance Extracted (AVE) for each construct exceeds the intercorrelations of that construct with the other constructs in the model (Table 2). Figure 1 depicts the measurement model of the proposed conceptual framework.

Table 1. Measurement model

Constructs	No of Items	Factor Loadings	R ²	Cronbach Alpha	Composite Reliability	Average Variance Extracted (AVE)
Distributive Leadership	6	0.621 – 0.842		0.839	0.873	0.549
School Management Process	13	0.610 – 0.814	0.027	0.924	0.940	0.524

Table 2. Discriminant validity

	Distributive Leadership	School Management Process
Distributive Leadership	0.741	
School Management Process	-0.165	0.724

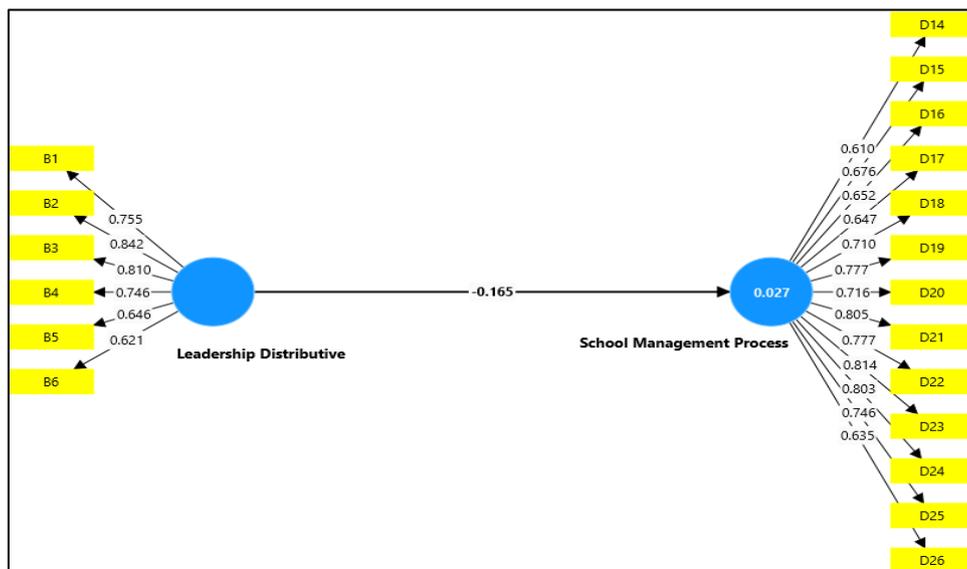


Figure 1. Measurement model

Evaluation of structural model

We evaluated the structural model with a bootstrapping procedure of 5,000 resamples to test hypotheses (Hair et al., 2020). First, we assessed overall collinearity and observed VIF values below 5 for all constructs, consistently across indicators and latent variables. Next, we computed the coefficient of determination (R^2) via the PLS algorithm. As Figure 1 demonstrates, the model’s R^2 equals 0.027, implying that 2.7% of variance in the school management process (the dependent variable) is attributable to ‘distributed leadership.’ The structural model further indicates that ‘distributed leadership’ affects the school management process of primary schools in Sarawak, yielding a path coefficient of -0.165 . Table 3 presents the corresponding t-statistics and associated p-value for the β -value, which jointly determine the significance of the hypothesized relationship between constructs within the structural model.

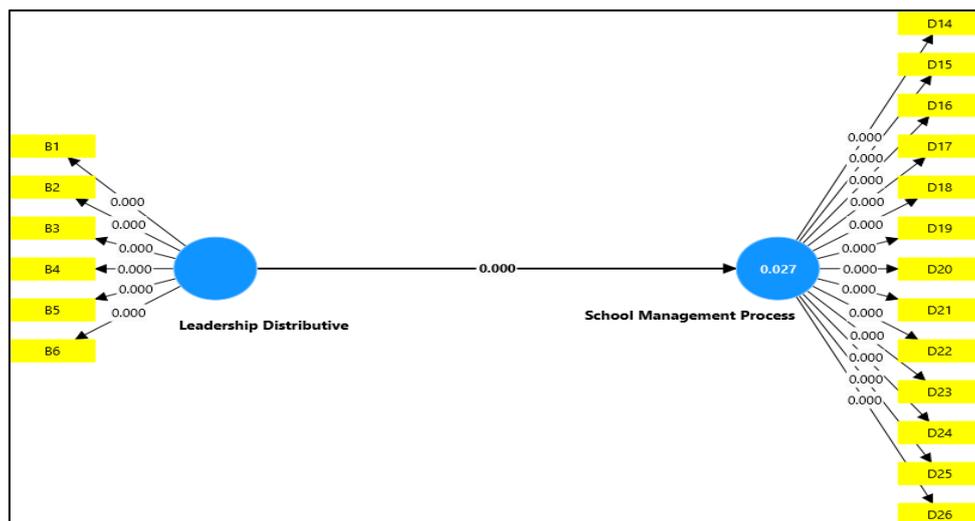


Figure 2. Structural model

The resulting values indicate that the relationship between ‘distributive leadership’ ($\beta=-0.165$; $t=4.381$) and the school management process of primary schools in Sarawak is statistically significant. Based on the aforementioned results, we analysed the proposed structural model. This study confirms that ‘distributive leadership’ ranks among the significant predictors of the school management process in primary schools in Sarawak. Furthermore, we examined the Q-square value to determine the model’s predictive ability,

which equals 0.016. The results clearly and consistently show that the q-square value exceeds zero (Chin, 1998; Umrani et al., 2018). Consequently, we conclude that the model possesses predictive relevance (see Table 3).

Table 3. Analysis of Structural Model

Hypotheses	Path Coefficient	T statistics	P values	Decision
H1: Distributive Leadership → School Management Process	-0.165	4.381	0.000	Supported

Discussion

This study investigates the relationship between distributive leadership and the school management process. We position distributive leadership as a practical framework for mobilizing people, processes, and resources to connect reform priorities to daily operations and more measurable results. Our results indicate that distributive leadership practice correlates with the management process of primary schools in Sarawak. Stronger distributive leadership practice also improves the school management process, a finding that Taole (2013) previously corroborated. Ramrathan (2017) demonstrates that leadership is crucial for achieving sustainable change in the school environment. Taole (2013) further argues that a principal's leadership ability plays a significant role in motivating educators to build a culture of learning in schools. School leadership encompasses a broader concept than management. We define management as a specific type of leadership in which achieving organizational goals serves as the primary objective. Leadership occurs when an individual intentionally influences the behaviour of individuals or groups, regardless of the motivation. Such influence may target one's own goals or the goals of others, which may not necessarily align with the organization's objectives (Ntombela, 2011). Ramrathan (2017) posits that leadership encompasses qualities such as authenticity, people-centeredness, inspiration, and a willingness to confront challenges in order to consistently do the right thing. Leadership requires individuals with specific talents and abilities rather than those who merely occupy positions of power due to associated benefits or favors (Spaul, 2013).

Numerous studies have utilized research samples of primary school teachers, such as Lee and Hamzah (2023) and Kupan and Razak (2021). Researchers have also conducted investigations among secondary school teachers, including Harun et al. (2016), Azhar and Ramli (2016), and Omar et al. (2021). Our review of these studies reveals that researchers mostly sampled primary school teachers in Peninsular Malaysia. The present study employs a limited primary school sample in the state of Sarawak. Moreover, most studies identify demographic differences among primary school teachers and report significant relationships and influences on school management and its associated factors. Consequently, by utilizing study samples that differ from prior research, we address the empirical gap in relation to sample selection and the focus of the study area.

Conclusion

The findings of this study deliver practical implications for the Ministry of Education (MoE), particularly the Inspectorate, because officials implement SKPMg2 as the evaluation measure for all teachers, including those in primary schools across Malaysia. The results of the study indicate a relationship between distributive leadership practices and school management processes. This research identifies leadership improvement strategies that can guide school administrators and teachers who encounter similar scenarios in practice and decision-making. The findings suggest that authorities should implement leadership courses and workshops for principals and school administrators nationwide. Furthermore, policymakers can utilize the results of this study to develop practical leadership course modules, organized by the Malaysian Ministry of Education (KPM) and training providers nationwide. This study addresses objectives and achieves its goal of analysing the relationship between distributive leadership and school management processes among primary teachers in Sarawak, Malaysia, providing evidence to inform practice and policy. The research will provide stakeholders with findings on the level of distributive leadership practices in special schools for administrators, thereby

enhancing the management system. This aim aligns with the Malaysian Ministry of Education's aspiration to cultivate high-performing leaders who can compete at a global level.

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Conflicts of Interest: *The authors declare no conflict of interest.*

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