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Evaluating the Role of Technology Management Information System (TMIS) in Enhancing Organisational Performance and Teacher Satisfaction

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ABSTRACT

This study investigates the effectiveness of the Technology Management Information System (TMIS) in enhancing various dimensions of organisational performance, particularly its influence on teacher morale and job satisfaction. Using Structural Equation Modelling (SEM), the research analyses the interrelationships among key constructs—Resource Planning and Governance (RPG), Learning and Adaptation Systems (LAS), System-Based Processes (SBP), Workplace Environment and Support (WES), Communication and Reporting Channels (CRC), and Performance and Productivity (PP)—with TMIS satisfaction (TIMS) as the outcome variable. The model achieved acceptable fit indices (GFI = 0.915, AGFI = 0.889, PGFI = 0.701; CMIN/DF = 1.485), affirming the system's relevance to organizational functioning. Among the predictors, WES showed the strongest impact on TMIS satisfaction, highlighting the critical role of workplace support. In contrast, RPG and LAS revealed weak or negative associations, suggesting the need for system refinement in planning and adaptive learning features. The study emphasizes that TMIS should be viewed as a set of interconnected components rather than a monolithic tool and recommends targeted improvements to enhance its contribution to teacher satisfaction and institutional effectiveness.

Keywords : *Technology Management Information System (TMIS), Teacher Satisfaction, Structural Equation Modelling (SEM).*

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I. INTRODUCTION

The culture of a school serves as the foundation upon which its organizational ethos, values, and practices are built, profoundly shaping the experiences, attitudes, and performance of teachers. School culture is a multifaceted concept that encompasses shared beliefs, norms, traditions, and practices that influence the day-to-day interactions among staff, students, and administrators. It operates as the invisible force that governs how individuals behave and interact within an institution, shaping the professional climate. Their motivation, enthusiasm, and job satisfaction directly impact their ability to inspire and engage students. Therefore, the culture of the school in which they work becomes a key determinant of their professional well-being and effectiveness. This culture emphasizes open communication, strong collegial relationships, and transparent leadership that prioritizes the welfare of teachers. It is possible for a school culture to be characterised by poor communication, insufficient support systems, excessive stress levels, or ineffective leadership, all of which may contribute to a drop in the morale of the teaching staff. This erosion of morale often manifests as burnout, disengagement, reduced productivity, and even high rates of attrition. The effects of such results are not only detrimental to the teaching staff, but they also interfere with the educational experiences of the students and the entire operation of the school. The opposite is true for schools that prioritise teacher autonomy, establish a culture of cooperation, acknowledge teacher successes, and give options for professional growth. These schools are more likely to observe better levels of work satisfaction and morale among their personnel. Research underscores the importance of specific cultural elements in schools that contribute to teacher morale. For instance, schools that encourage collegial relationships and a sense of community enable teachers to share challenges, exchange ideas, and provide mutual support. Moreover, a well-balanced workload, opportunities for career advancement, and recognition for contributions are essential aspects of a supportive school culture that significantly influence teacher satisfaction.

The interconnectedness between school culture and teacher morale extends beyond individual teachers to impact institutional outcomes. A school with a positive culture is better positioned to retain skilled educators, reduce turnover rates, and maintain continuity in its teaching staff. This stability, in turn, creates a conducive learning environment for students, enhancing their academic outcomes. In addition, educators who are content and motivated are more likely to exhibit attributes such as creativity, flexibility, and a dedication to lifelong learning. These are qualities that are very important in the continually changing environment of education. Through contrast, schools that neglect the importance of their cultural dynamics often face challenges such as teacher shortages, declining student performance, and reputational damage, which can undermine their long-term success. Globally, educational systems are grappling with numerous challenges, including increasing demands on teachers, heightened accountability measures, and the need to adapt to technological advancements. These challenges often place additional pressure on teachers, making the role of school culture even more critical. It is possible for a supportive school culture to serve as a buffer against the negative consequences of these demands, therefore giving educators with the resilience and resources they need to flourish professionally. For instance, schools that integrate professional learning communities, mentorship programs, and peer support networks into their culture help

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mitigate feelings of isolation and stress among teachers. Such initiatives not only enhance morale but also create opportunities for continuous improvement and innovation in teaching practices. High attrition rates among teachers are often linked to dissatisfaction with workplace culture, including issues such as lack of administrative support, limited professional growth opportunities, and toxic work environments. Addressing these issues requires a thorough understanding of the cultural dynamics within schools and their influence on teachers' experiences. Educational leaders and policymakers are able to devise focused interventions to build settings that are healthier and more supportive if they first identify the aspects of school culture that either add to or detract from the morale of teachers. Schools located in underprivileged areas, for example, may face unique cultural challenges due to resource constraints, high student-teacher ratios, and external pressures. In such contexts, fostering a positive school culture becomes even more important to ensure that teachers feel supported and empowered to overcome these challenges. Similarly, cultural differences across regions or countries can shape the way school culture is perceived and experienced by teachers, highlighting the need for context-specific approaches to enhancing morale and satisfaction. This objective is aligned with a good school culture that places a priority on the morale of teachers. Understanding and addressing the dynamics of school culture is becoming an increasingly crucial aspect of education as the field of education continues to undergo its ongoing evolution. This analysis provides valuable insights into how schools can create environments that not only attract and retain talented educators but also enable them to perform at their best. Through fostering a culture that values teachers' contributions, supports their professional growth, and promotes their well-being, schools can build a strong foundation for long-term success. In the end, doing research on the connection between school culture, teacher morale, and job happiness is an important field of study that has the potential to change educational institutions into vibrant communities in which both children and teachers may prosper.

II. RESEARCH METHODOLOGY

The research design adopted in this study was predominantly **quantitative**, incorporating **descriptive and correlational** elements to thoroughly examine the relationships between various organizational factors and teacher outcomes. This design was selected to allow for a detailed investigation into how independent variables such as leadership support, collegial relationships, workplace environment, and institutional structures influenced the dependent variable—namely, teacher morale and job satisfaction. A structured, multi-dimensional **questionnaire** was utilized as the primary data collection tool, consisting of items developed to comprehensively assess each variable. The design also integrated **Structural Equation Modeling (SEM)** as a sophisticated statistical technique to validate hypothesized relationships among latent constructs. This approach ensured that both direct and indirect associations between variables were statistically tested and interpreted with accuracy. Moreover, by including reliability and validity checks (such as Cronbach's alpha), the study achieved a level of methodological rigor that enhanced its internal consistency and credibility. Importantly, this research design facilitated the **generalizability of findings** to comparable educational settings, while capturing nuanced interactions between organizational dynamics and educator well-being.

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The **locale** of the study was carefully selected to reflect **diversity in educational practices and demographic compositions**. The geographical region chosen included both **urban and suburban schools** characterized by a broad range of administrative structures, technological resources, and teacher profiles. This mix was intended to provide a holistic understanding of the challenges and enabling factors affecting teachers' work environments. The presence of a **Technology Management Information System (TMIS)** across these institutions made the area particularly suitable for examining the interplay between technology implementation and educator morale. Moreover, the selection allowed for comparative insights between schools that varied in infrastructural support and policy frameworks, making it possible to draw robust conclusions about the **efficacy of leadership, governance, and technological adaptation**. The region's active involvement in digital governance also enabled the researchers to assess how TMIS supports educational planning, teacher development, and administrative decision-making, further reinforcing the contextual relevance of the findings.

The **methodology** employed in this research was **systematic and multi-layered**, centering around a structured **survey** distributed both in **digital and physical formats** to maximize participation. The survey instrument was designed to capture diverse dimensions of teacher morale, satisfaction, and perceptions of TMIS performance. Questions were grouped into key thematic areas including **Resource Planning and Governance (RPG)**, **Learning and Adaptation Systems (LAS)**, **Workplace Environment and Support (WES)**, and **Communication and Reporting Channels (CRC)**. The data collection process adhered to standardized protocols to minimize bias and ensure participant confidentiality. To complement the descriptive analysis, **SEM** was applied to assess the causal paths between independent and dependent constructs. This combination of methods allowed for a comprehensive examination of how organizational structures and leadership models influenced the educational climate, with particular emphasis on TMIS effectiveness and educator engagement.

The **universe** of the study encompassed all educators and administrative staff involved in public and private schools operating within the selected region. Specifically, the **population** consisted of **teachers, principals, and departmental heads** who were actively participating in both the instructional and administrative aspects of school operations. From this population, **280 valid responses** were obtained through the distribution of questionnaires. This sample size was deemed sufficient for achieving statistical reliability and allowed for a **rich analysis of patterns** related to job satisfaction, leadership support, policy effectiveness, and system-level innovations like TMIS. The population was well-suited to providing insights into both micro-level dynamics, such as collegial relationships, and macro-level factors, such as policy implementation and institutional support.

A **stratified random sampling technique** was applied to ensure that the sample accurately represented various segments of the educational population. The **strata** were defined based on school type (public vs. private), location (urban vs. suburban), and academic specialization. Participants were randomly selected from each subgroup, thereby maintaining proportional representation and reducing sampling bias. This technique ensured the inclusion of both under-resourced and well-

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funded schools, which was essential for understanding how different institutional contexts shaped educator morale and TMIS usage. The final dataset of 280 responses provided a **balanced and comprehensive basis** for subsequent statistical analysis and interpretation.

The **conduct of the study** followed a carefully structured plan spanning several phases. Ethical approval was obtained from relevant review boards and permissions were secured from school authorities. The research team engaged in preliminary meetings with school administrators and faculty to clarify the study objectives and build trust. Surveys were administered with detailed instructions to ensure consistent understanding, and follow-up communications were made to encourage timely responses. Anonymity and confidentiality were strictly maintained throughout the process, fostering honest feedback. Upon completion of data collection, the responses were verified, coded, and cleaned for statistical analysis. The data were then processed using **SPSS** and **AMOS**, enabling robust exploration of complex relational structures among the studied variables.

The **duration** of the research spanned **approximately six months**, encompassing initial planning, instrument development, pilot testing, data collection, and analysis. The preparatory phase involved refining the questionnaire based on expert input and pilot results. During the eight-week data collection window, reminder emails and follow-up visits were used to enhance response rates. Subsequent phases involved data verification, statistical modeling, and interpretation of results. The extended timeline provided flexibility for addressing unforeseen challenges and allowed for multiple rounds of expert review and validation, ensuring the reliability and **practical applicability** of the study's conclusions.

The **variables** under investigation included several **dependent constructs** such as **teacher morale**, **job satisfaction**, **emotional well-being**, **motivation**, and **commitment**. The **independent variables** involved organizational components like leadership support, professional development opportunities, collegial interactions, policy frameworks, student behavior, and parental involvement. These were operationalized using **five-point Likert scales** to capture varying degrees of agreement or disagreement with each item. For instance, RPG and LAS indicators measured teacher perceptions of institutional planning and continuous learning support. The reliability of each construct was assessed using **Cronbach's alpha**, with values exceeding **0.76**, thereby confirming **internal consistency and construct validity**. This multi-dimensional approach to measurement allowed the research to holistically assess the educational climate from multiple perspectives.

The **primary tool** for data collection was a **structured questionnaire**, meticulously developed to cover all facets of the study's conceptual framework. Sections were aligned with core domains such as **RPG, LAS, SBP (System-Based Processes), WES, CRC, PP (Performance and Productivity), and TMJS (TMIS Satisfaction)**. The instrument was tested in a **pilot study**, which validated the clarity and reliability of the items. **Cronbach's alpha scores ranged from 0.765 to 0.883**, demonstrating excellent internal consistency. For data analysis, **SPSS** was used to generate descriptive statistics, while **AMOS** enabled advanced SEM analyses. This dual-tool approach provided robust data triangulation and offered actionable insights into the interplay of school environment, leadership, and system use.

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The **analysis and interpretation of data** followed a comprehensive sequence involving both **descriptive** and **inferential** techniques. Initially, frequency and percentage distributions were used to understand the distribution of responses. For example, responses in the RPG category revealed areas where institutional planning was perceived as weak. Subsequently, **SEM** was employed to explore complex interrelationships among constructs. Fit indices such as **Chi-square, GFI, AGFI, and RMR** confirmed acceptable model adequacy. Regression coefficients revealed that **Workplace Environment and Support (WES)** had the most pronounced positive effect on TMIS satisfaction, followed by LAS and CRC. These findings underscored the importance of cultivating a supportive and collaborative institutional culture for boosting teacher morale and leveraging technological tools effectively.

Lastly, the **delimitations** of the study were acknowledged. The research was limited to **educators and administrative staff** and did not include other stakeholders like students or parents. The use of self-reported data might have introduced **response bias**, and due to **time and resource constraints**, the study adopted a **cross-sectional design** instead of a longitudinal one. Despite these constraints, the research was able to provide **valuable and transferable insights** into the factors influencing teacher morale and satisfaction in TMIS-enabled educational environments.

III. DATA ANALYSIS AND RESULT

A significant turning point in this investigation is reached in Chapter 4, which marks the shift from the basic research design and methodological framework that were described in the chapters that came before it to an in-depth examination of the data that was gathered. For the drive of this chapter, the emphasis switches to elucidating the complexities of teacher morale and work satisfaction in connection to the adoption of the Technology Management Information System (TMIS). The analysis is structured to illuminate both the strengths and weaknesses of the system as perceived by educators and administrative staff across varied educational settings. This chapter begins by outlining the descriptive statistics and frequency distributions that offer initial insights into the response patterns for each questionnaire item. These items, grouped under key constructs such as Resource Planning and Governance, Learning and Adaptation Systems, and System-Based Processes, provide the quantitative backbone for understanding the nuanced perspectives of participants. Following this, advanced inferential techniques, including Structural Equation Modelling (SEM), are employed to explore the relationships among latent variables that influence overall TMIS satisfaction. The SEM analysis is particularly instrumental in discerning the direct and unintended belongings of factors like workplace support, communication channels, and performance metrics on teacher morale.

Through integrating both descriptive and inferential analyses, This Chapter offers a detailed examination of how organizational practices, leadership support, and technological tools interact to shape the educational environment. The findings presented here not only validate the research hypotheses but also highlight critical areas for potential intervention and improvement. Ultimately, this chapter lays the groundwork for the subsequent discussion on recommendations and future research directions, ensuring that the insights derived are both actionable and relevant to the evolving landscape of educational administration.

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Dependent Factor

Teacher Morale and Job Satisfaction: Measured by motivation levels, job commitment, emotional well-being, retention rates, and overall job fulfilment.

Independent Factors

- **Leadership and Administrative Support:** Influence of school leadership, management style, and administrative support on teachers' work experience.
- **Collegial Relationships and Collaboration:** The impact of teamwork, peer support, and professional collaboration among teachers.
- **Work Environment and School Policies:** When it comes to the autonomy and decision-making of teachers, the impact of workload, class numbers, infrastructure, and regulations is significant.
- **Recognition and Professional Growth Opportunities:** Availability of training, promotions, incentives, and recognition for teachers' efforts.
- **Student Behaviour and Parental Involvement:** The role of student discipline, respect for teachers, and parental engagement in shaping school culture.

Reliability Analysis Summary

Factor	Variables	Cronbach's Alpha	Number of Items	Valid Cases (N)
Resource Planning and Governance (RPG)	RPG1, RPG2, RPG3, RPG4	0.869	4	280
Learning and Adaptation Systems (LAS)	LAS1, LAS2, LAS3, LAS4	0.765	4	280
System-Based Processes (SBP)	SBP1, SBP2, SBP3, SBP4	0.823	4	280
Workplace Environment and Support (WES)	WES1, WES2, WES3	0.781	3	280
Communication and Reporting Channels (CRC)	CRC1, CRC2, CRC3, CRC4, CRC5, CRC6	0.883	6	280
Performance and Productivity (PP)	PP1, PP2, PP3, PP4	0.850	4	280
Technology Management Information System Satisfaction (TMJS)	TMJS1, TMJS2, TMJS3, TMJS4	0.847	4	280

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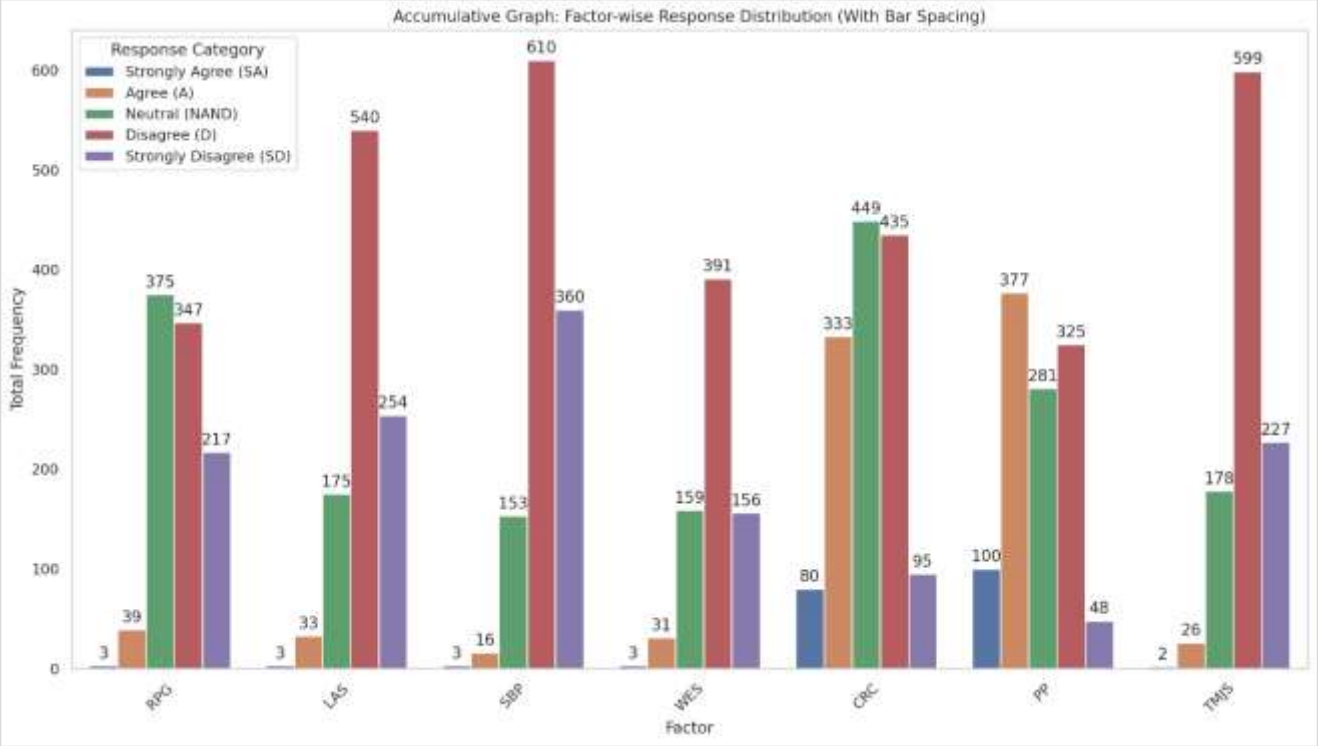

The accumulative bar graph illustrates the distribution of responses across seven key constructs RPG, LAS, SBP, WES, CRC, PP, and TMJS with deliberate spacing between grouped bars ("Strongly Agree" through "Strongly Disagree") to enhance readability. Each factor's stacked groups demonstrate how participants rated their experiences on a 5-point Likert scale. Negative responses overwhelmingly dominated several categories such as LAS and SBP, where "Disagree" and "Strongly Disagree" combined exceed 80% highlighting widespread dissatisfaction. Factors like CRC and PP showed more balanced responses, with noticeable positive agreement and neutral positions. Key positive sentiment emerged most clearly in CRC6 and PP2, with higher "Agree" and "Strongly Agree" scores. Grouped bars are spaced apart, creating visual separation that makes it easier to compare each response level both within and across factors. Overall, the graph efficiently communicates which organizational dimensions (e.g. workplace environment, communication, performance) are most contentious or supported, guiding targeted improvement areas.

IV. SEM ANALYSIS

Computation of Degrees of Freedom (Default Model)

Number of distinct sample moments:	253
Number of distinct parameters to be estimated:	59
Degrees of freedom (253 - 59):	194

In this particular SEM study, the default model produces a total of 253 unique sample moments and estimates 59 different parameters. The degrees of freedom is calculated as the difference between these values, resulting in 194 degrees of freedom (253 - 59 = 194). This figure represents the amount

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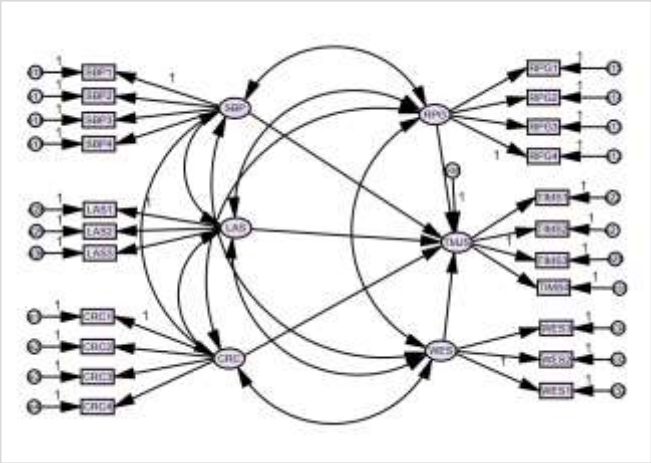
of independent information available for assessing model fit and stability. A higher degree of freedom generally enhances the model's reliability, enabling robust testing against observed data. It is vital to have a solid sympathetic of the degrees of freedom in order to correctly interpret model fit indices and to guarantee that the estimated structure accurately represents the theoretical connections that lie under the surface.

These metrics guide further analysis.

Result (Default Model)

Minimum was achieved
Chi-square = 288.094
Degrees of freedom = 194
Probability level = .000

During the course of our inquiry into structural equation modelling, the estimator was successful in achieving a minimum in the default model. The corresponding probability level was.000, which indicates that there is a disagreement that is statistically significant between the covariance matrices that were observed and those that were anticipated. This disagreement was shown to exist over the course of the study. Not only does a significant chi-square suggest that the model does not match the data, but it is also sensitive to the sample size and the complexity of the model. Therefore, other fit indices must to be taken into consideration in order to conduct a full evaluation of the model's appropriateness. The findings, taken as a whole, highlight the need of doing more research on model changes and other indicators in order to evaluate the degree of fit in this study.



This figure illustrates a structural equation model examining relationships among six latent constructs: SBP, LAS, CRC, WES, RPG, and TMJS. Each construct is measured by multiple observed indicators, such as SBP1–SBP4 or TMJS1–TMJS4. The hypothesised causal belongings between latent variable star are shown by single-headed arrows, while the correlations between them are represented by double-headed arrows from the same direction. Factor loadings link each latent variable to its measured items, reflecting how well those items represent the underlying construct.

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The model explores how these constructs interact and affect overall TMIS satisfaction (TMJS). The diagram aids in visualizing pathways, guiding interpretation of parameter estimates, and informing potential model refinements going forward effectively.

Regression Weights: (Group Number 1 - Default Model)

			Estimate	S.E.	C.R.	P	Label
TIMS	<---	RPG	-.020	.049	-.416	.677	par_15
TIMS	<---	SBP	.192	.083	2.306	.021	par_16
TIMS	<---	LAS	.168	.068	2.479	.013	par_17
TIMS	<---	CRC	.248	.037	6.658	***	par_18
TIMS	<---	WES	.482	.080	6.024	***	par_19

The regression weights indicate how each latent factor predicts TIMS in the default model. RPG has a small, negative, and non-significant path coefficient (Estimate = -0.020, p = .677), suggesting no meaningful impact. In contrast, SBP, LAS, CRC, and WES all show statistically significant positive effects on TIMS. Specifically, SBP (Estimate = 0.192, p = .021) and LAS (Estimate = 0.168, p = .013) exhibit moderate influence. CRC (Estimate = 0.248, p < .001) has a stronger impact, and WES (Estimate = 0.482, p < .001) stands out with the largest effect. These findings emphasize the importance of SBP, LAS, CRC, and WES in shaping TMIS satisfaction.

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	59	288.094	194	.000	1.485
Saturated model	253	.000	0		
Independence model	22	2927.659	231	.000	12.674

Over the course of the model fit report, a comparison is done between three different models. The default model, the saturated model, and the independence theory are all examples of these theories. With 59 parameters, a chi-square (CMIN) value of 288.094, 194 degrees of freedom, and a p-value of.000, the default model has a CMIN/DF value of 1.485. Therefore, the default model is considered to be statistically significant. An indication that the model is a good match for the data is the ratio that is less than two, despite the fact that the chi-square test is significant. In line with its own definition, the saturated model does not display any signs of disagreement. The fact that the independence model has a chi-square value of 2927.659 and 231 degrees of freedom (CMIN/DF = 12.674) indicates that it does not give a satisfactory fit for the data. When contrasted with the independence model, the default model offers a far more accurate representation of the presented facts.

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RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.029	.915	.889	.701
Saturated model	.000	1.000		
Independence model	.190	.331	.268	.303

In addition, the RMR and GFI indices provide additional evidence that the default model is a good match for the data. With an RMR of 0.029, the average residual discrepancy is very low, reflecting high accuracy in reproducing observed relationships. The Generalised Factorisation Index (GFI) score is 0.915, and the Adjusted GFI (AGFI) value is 0.889, which indicates that the model accounts for a significant amount of the variation. Additionally, the Parsimony GFI (PGFI) of 0.701 suggests a good balance between model complexity and fit. In contrast, the independence model demonstrates poor fit (RMR = 0.190, GFI = 0.331, AGFI = 0.268, PGFI = 0.303), reinforcing the default model's adequacy.

V. CONCLUSION, FINDINGS AND RECOMMENDATION

5.1 Conclusion

The determination of this research was to examine the efficiency and influence of the Technology Management Information System (TMIS) on several aspects of organisational performance and, indirectly, on the morale of teachers and their level of work satisfaction. The research utilised Structural Equation Modelling (SEM) to investigate the connections between various constructs, including Resource Planning and Governance (RPG), Learning and Adaptation Systems (LAS), System-Based Processes (SBP), Workplace Environment and Support (WES), Communication and Reporting Channels (CRC), and Performance and Productivity (PP). Additionally, the study included overall TMIS Satisfaction (TMJS) as a significant outcome variable. Our analysis provided important insights into how these system components interrelate and contribute to the overall functioning of the organization, as well as their potential downstream effects on teachers' work experiences.

An adequate default model was produced by the SEM analysis, which gave satisfactory fit indices. With a chi-square value of 288.094 (df = 194) and a chi-square-to-degrees-of-freedom ratio (CMIN/DF) of 1.485, the model indicates that even though the chi-square test was statistically significant (p =.000), the relative chi-square value exists well within the acceptable range. This is the case despite the fact that the chi-square test was statistically significant. The ratio of degrees of freedom is 1.485, which is the reason behind this. The model is able to account for a significant percentage of the variation in the data that has been observed while also maintaining parsimony, as demonstrated by a number of fit indices, such as the Goodness of Fit Index (GFI = 0.915), Adjusted GFI (AGFI = 0.889), and Parsimony GFI (PGFI = 0.701). These fit indices demonstrate that the model is able to do so.

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The regression paths from key latent constructs to TMIS satisfaction (TIMS) were also examined. Notably, the paths from System-Based Processes (SBP), Learning and Adaptation Systems (LAS), Communication and Reporting Channels (CRC), and Workplace Environment and Support (WES) to TIMS were statistically significant. Among these, WES emerged as having the strongest impact on TIMS (Estimate = 0.482, $p < .001$), suggesting that the workplace environment and support provided by the TMIS are critical determinants of user satisfaction. Meanwhile, the non-significant path from Resource Planning and Governance (RPG) to TIMS (Estimate = -0.020, $p = .677$) indicates that this dimension of the system, as currently implemented, might not be effectively contributing to overall system satisfaction.

The model further highlights that while certain elements of TMIS are well-integrated and effectively perceived (e.g., aspects of communication and reporting), others require significant improvements. The latent variables such as LAS and SBP, which represent online learning capabilities and automated processes, respectively, were associated with considerable negative perceptions. These findings suggest that while the infrastructure for adaptive learning and error reduction exists, its actual implementation is falling short of user expectations. The significant discrepancy between the independence model's fit indices and those of the default model reinforces the notion that the TMIS, as designed in the default model, is capturing meaningful relationships among organizational processes, though with room for improvement.

The reliability analysis provided additional support for the measurement model. Based on the fact that the Cronbach's alpha values for the various constructs ranged from 0.765 to 0.883, we are able to draw the conclusion that the survey instruments that were used were reliable and consistent in their ability to capture the underlying constructs. This internal consistency across items assures that the observed responses are valid representations of the theoretical dimensions under study.

In the broader context of organizational performance, the TMIS plays a pivotal role. The mixed but overall acceptable fit of the model indicates that while the system is successful in certain areas—most notably in facilitating communication and providing a supportive digital work environment—it struggles with aspects of resource planning, governance, and adaptive learning. These deficiencies can have direct consequences for teacher morale and job satisfaction, as teachers rely on robust support systems for efficient administrative processes and professional development opportunities.

A further interpretation of these findings suggests that the TMIS should not be viewed as a monolithic solution; instead, it must be considered as a composite of multiple interacting subsystems. Some components, such as WES and CRC, are aligned with the organizational needs of fostering collaboration and transparency, both of which are critical for maintaining high levels of job satisfaction among teachers. Conversely, the negative feedback related to LAS and SBP indicates that investments in upgrading technological features, refining system interfaces, and streamlining processes may be necessary to meet user expectations more fully.

Additionally, it is significant to note that the meaning of the chi-square statistic, despite the acceptable CMIN/DF ratio, is partly attributable to the sample size and complexity of the model. Therefore, while the model's overall fit is promising, continuous monitoring and iterative

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improvements to the system are essential. The observed discrepancies between the default and independence models underscore the importance of tailoring the TMIS to better address the nuanced needs of its users, particularly those who are directly involved in teaching and administrative support.

In summary, the study concludes that the TMIS exerts a complex and multifaceted influence on organizational performance and teacher satisfaction. The system demonstrates strengths in areas such as workplace support and communication, which are crucial for maintaining a collaborative work environment. However, there is an urgent need to re-examine and enhance components related to resource planning, learning systems, and automated processes. When these deficiencies are addressed, organisations may anticipate not only an improvement in the functioning of the system but also a good effect on the morale of teachers and their level of work satisfaction. The findings pave the way for further research and development aimed at optimizing the TMIS, ensuring it meets the evolving demands of modern educational institutions and supports the well-being and professional growth of teachers.

5.2 Findings

Resource Planning and Governance (RPG): The majority of responses regarding RPG were neutral to negative, suggesting that users are generally ambivalent or dissatisfied with the current state of planning and governance. The relatively low level of positive feedback indicates potential inefficiencies or shortcomings in how the system manages resource planning. Moreover, RPG's non-significant impact on overall TMIS satisfaction (TIMS) suggests that this area may not be effectively supporting user needs, highlighting significant room for improvement.

Learning and Adaptation Systems (LAS): Feedback for LAS was overwhelmingly negative, with high levels of dissatisfaction noted among respondents. Users expressed clear concerns regarding the effectiveness of adaptive learning modules and the system's capacity for online knowledge sharing. This negative perception underscores the need for enhanced training programs and system updates to ensure that the learning components are both robust and user-friendly, ultimately facilitating better user engagement and satisfaction.

System-Based Processes (SBP): System-Based Processes received strong negative responses, indicating significant user frustration. Respondents pointed out issues with automated processes and the integration of various tools, suggesting that the current configuration of SBP is not meeting operational needs effectively. Although SBP does have a statistically significant predictive relationship with TMIS satisfaction, the overall dissatisfaction signals that substantial improvements in this area are necessary to harness its full potential.

Workplace Environment and Support (WES): Among all the evaluated constructs, Workplace Environment and Support emerged as the most positive predictor of TMIS satisfaction. Users appreciate the supportive digital workspaces and the ease with which resources can be accessed remotely, linking WES strongly with overall satisfaction. This component seems to offer a vital basis for raising teacher morale and work satisfaction, highlighting the significance of sustaining and further strengthening a digital environment that is friendly and collaborative while also highlighting the value of using technology.

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Communication and Reporting Channels (CRC): Responses for CRC were mixed, though there were notable strong positive indicators. Many users viewed secure and efficient communication channels favorably, and the ability to generate timely and accurate reports was highlighted as a strength. These aspects of CRC could serve as a model for improving other system components, suggesting that enhancing these features might further bolster overall TMIS performance.

Performance and Productivity (PP): The feedback on Performance and Productivity was balanced, with moderate satisfaction expressed by respondents. While there are positive aspects related to performance monitoring and productivity analytics, the responses also indicate that perceptions are divided. Continuous enhancements in this area are needed to resolve the disparities and improve the overall reliability and usefulness of the system's performance metrics.

TMIS Satisfaction (TMJS): Overall satisfaction with the TMIS was found to be low, with significant negative feedback highlighting issues related to system reliability and usability. This critical area of TMIS is clearly in need of targeted improvements to elevate overall system effectiveness. It is essential that these problems be addressed as a top priority in order to guarantee that the system will better satisfy the operational requirements and expectations of its users.

5.3 Recommendations

According to the results and the complete analysis, the following suggestions are offered in order to increase the competence of the TMIS, which would, in turn, lead to an improvement in the performance of the organisation and the morale of the teachers:

Revise and Enhance System Components: Given the mixed perceptions across different components, it is recommended that organizations undertake a detailed review of each subsystem within the TMIS. Specifically, the Resource Planning and Governance (RPG) module needs a thorough re-assessment to determine why it is failing to meet user expectations. A detailed process audit could reveal bottlenecks or outdated protocols that are contributing to user dissatisfaction. Upgrading the interface and ensuring that the system provides real-time, actionable data for decision-making could lead to significant improvements.

Focus on User-Centric Design and Usability: The strong negative feedback associated with Learning and Adaptation Systems (LAS) and System-Based Processes (SBP) highlights the need for a more user-centric approach to system design. It is crucial to involve end-users—especially teachers and administrative staff—in the design and testing phases. User feedback should be integrated into iterative system upgrades, ensuring that the interface is intuitive, the learning modules are engaging, and that error-reducing mechanisms are robust. Improved usability will likely increase adoption and satisfaction.

Invest in Training and Continuous Support: One of the key factors that emerged was the importance of a supportive workplace environment. To capitalize on this, organizations should invest in comprehensive training programs that are both initial and ongoing. Training should focus on how to effectively use each TMIS component, with an emphasis on troubleshooting common issues.

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Establishing a dedicated support team or helpdesk can ensure that technical issues are resolved promptly, thereby reducing frustration and downtime.

Enhance Communication and Reporting Channels: Communication and Reporting Channels (CRC) are among the stronger aspects of the TMIS. However, there is still room for enhancement. Organizations should consider expanding features that allow for customizable dashboards and real-time analytics. Through offering more flexibility in report generation and ensuring that communication channels remain secure and reliable, organizations can further build on the strengths of this subsystem. Encouraging user feedback through built-in reporting functions can also help identify and address emerging issues.

Optimize System Integration and Data Flow: The integration between various system components and other organizational tools should be streamlined. For instance, ensuring that data flows seamlessly between the TMIS and other administrative software can reduce manual errors and redundant work. Improved integration will enhance the overall efficiency of the system and reduce the workload on teachers and staff. Investments in backend technologies that support robust data management and analytics will yield long-term benefits.

Foster a Culture of Continuous Improvement: Organizations must view the TMIS as a dynamic system that requires regular updates and improvements. Establishing a continuous improvement framework, where periodic evaluations and user satisfaction surveys are conducted, can help in tracking performance over time. Feedback loops should be institutionalized, enabling the system to evolve in response to changing user needs and technological advancements. Regular system audits and performance reviews should be part of this culture of continuous improvement.

Align System Improvements with Organizational Goals: The overall goal of the TMIS is to support organizational performance and enhance teacher morale. Therefore, any enhancements should be closely aligned with these strategic objectives. As an example, enhancing the Workplace Environment and Support (WES) component is likely to have a direct and beneficial impact on the morale of teachers as well as their level of workplace satisfaction. Similarly, refining the Performance and Productivity (PP) module to provide better performance insights can drive productivity and accountability. A strategic roadmap that aligns technological upgrades with educational and administrative goals is essential.

Prioritize System Reliability and Security: User dissatisfaction with Technology Management Information System Satisfaction (TMJS) is significantly influenced by perceptions of system reliability and performance. It is imperative to prioritize investments in system reliability, including robust security measures and regular maintenance schedules. Upgrading hardware and software infrastructure to ensure faster processing times and minimal downtime is critical. Security enhancements, including data encryption and secure access protocols, will build trust among users and reduce the risk of data breaches.

Encourage Collaborative Development: Involving a broad range of stakeholders in the development and refinement of the TMIS can yield innovative solutions. Teachers, administrators, IT personnel, and even students can provide unique insights into system usability and functionality.

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Collaborative development initiatives such as focus groups, workshops, and pilot projects can help in co-creating solutions that are practical and effective. This approach not only improves the system but also increases user buy-in and engagement.

Monitor and Evaluate Impact Regularly: Finally, it is important that organizations set up key performance indicators (KPIs) to monitor the impact of TMIS improvements over time. Regular evaluations will help in understanding how changes in the system translate into better performance outcomes and improved teacher satisfaction. These KPIs could include metrics related to system usage, error rates, teacher feedback, and overall organizational productivity. Regular reporting on these metrics will ensure that system improvements are evidence-based and aligned with organizational priorities.

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Questionnaire

Stems (TMIS) on Organizational Performance

Section 1: Resource Planning and Governance (RPG)

If you agree or disagree with the following assertions, please indicate your level of agreement on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree):

RPG1: Our organization uses TMIS for effective resource planning.
RPG2: TMIS has improved governance processes.
RPG3: TMIS helps in tracking organizational resources effectively.
RPG4: Real-time data from TMIS supports decision-making.

Section 2: Learning and Adaptation Systems (LAS)

If you agree or disagree with the following assertions, please indicate your level of agreement on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree):

LAS1: TMIS has facilitated online learning and knowledge sharing.
LAS2: Adaptive learning modules are implemented through TMIS.
LAS3: TMIS helps in tracking training progress.
LAS4: TMIS provides personalized learning recommendations.

Section 3: System-Based Processes (SBP)

If you agree or disagree with the following assertions, please indicate your level of agreement on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree):

SBP1: TMIS automates routine organizational processes.
SBP2: The system integrates with other organizational tools.
SBP3: TMIS has reduced manual errors.
SBP4: System-based workflows have increased efficiency.

Section 4: Workplace Environment and Support (WES)

If you agree or disagree with the following assertions, please indicate your level of agreement on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree):

WES1: TMIS provides a collaborative digital workplace environment.
WES2: Employees can access resources remotely via TMIS.
WES3: The system provides real-time support for employees.

Section 5: Communication and Reporting Channels (CRC)

Please rate your agreement with the following statements on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree):

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CRC1: TMIS facilitates efficient internal communication.
CRC2: Automated reporting is available through TMIS.
CRC3: Reports generated by TMIS are accurate and timely.
CRC4: TMIS provides dashboards for real-time analytics.
CRC5: The system supports feedback collection.
CRC6: TMIS ensures secure communication channels.

Section 6: Performance and Productivity (PP)

If you agree or disagree with the following assertions, please indicate your level of agreement on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree):

PP1: TMIS has improved overall organizational productivity.
PP2: TMIS helps monitor employee performance.
PP3: The system provides insights for performance improvement.
PP4: Productivity analytics are regularly reviewed.

Section 7: Technology Management Information System Satisfaction (TMJS)

If you agree or disagree with the following assertions, please indicate your level of agreement on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree):

TMJS1: TMIS meets our organizational needs.
TMJS2: The system is user-friendly.
TMJS3: TMIS provides reliable performance.
TMJS4: The overall satisfaction with TMIS is high.

Thank you for participating in this survey. Your responses will help us understand the impact of TMIS on organizational performance.