



Assessing Learning Organization Dimensions in Tanzanian Public Sector Institutions

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Learning organisations are increasingly recognised as essential for improving organisational adaptability, innovation, and performance in dynamic environments. However, empirical evidence on learning organisation characteristics within public sector institutions in Sub-Saharan Africa, particularly in Tanzania, remains limited. This study explored the extent to which Tanzanian public-sector organisations act as learning organisations. To do this, we examined learning practices at the individual, team, and organisational levels using the Dimensions of the Learning Organisation Questionnaire (DLOQ). We surveyed 295 people from 32 public organisations and analysed the results using basic statistical methods.

The results showed that many of the organisations had good learning practices in place, especially strong leadership, effective systems, and effective integration across different parts of the organisation. These areas received the highest marks, indicating that the basic structures for learning are fairly solid. However, areas such as encouraging ongoing learning, open discussions, employee empowerment, and teamwork were not as strong. The study found that while leaders often share the organisation's values and use systems to measure performance, there is still work to be done in recognising learning, building trust, and supporting employees in taking risks. The study concludes that having rules and systems is not enough for an organisation to learn and grow—it also needs a culture that supports people in sharing ideas and learning from each other. To help public organisations in Tanzania become more adaptive and resilient, it is important to recognise employees' learning, encourage open communication, empower staff with more decision-making authority, and promote teamwork. By examining Tanzanian public organisations, this research offers new insights into learning organisations, particularly in Sub-Saharan Africa, where research has been limited to date. To improve learning organisations in Tanzanian public institutions, leaders should foster a strong learning culture through continuous professional development and psychological safety. Investing in knowledge-sharing platforms can enhance collaboration, while utilising the Dimensions of Learning Organisation Questionnaire (DLOQ) for regular assessments will provide insights for targeted improvements in learning practices.

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INTRODUCTION

Senge, a key figure in learning organisation theory, identified five disciplines essential for organisational learning: systems thinking, personal mastery, mental models, shared vision, and team learning (Senge, 1990). The systems thinking discipline promotes a holistic view in which organisational structures and processes are interconnected. Short-term fixes can lead to long-term costs if systemic relationships are overlooked (Girard et al., 2006). Systems thinking integrates with the other four disciplines by emphasising collective learning through shared visions, questioning assumptions, and fostering team spirit (Liu, 2018). Personal mastery involves individuals continuously improving their skills (Ibid.). Organisations benefit when many employees develop both technical and interpersonal competencies (ibid.). This journey toward personal mastery is foundational to building a learning organisation, as it fosters an environment in which each member is committed to their growth alongside the collective's. The characteristics outlined in the literature (such as Kools & Stoll, 2016; Liu, 2018) emphasise not only the importance of a shared vision but also the necessity for organisations to create and support continuous learning opportunities that align perfectly with the principles of personal mastery. A culture of mentoring and knowledge sharing is crucial and should be supported by training and incentives. Learning organisations require individuals to challenge their assumptions, embrace change, and engage in “learningful” conversations that balance inquiry with advocacy (Senge, 1990). Team learning is defined as aligning and developing a team's ability to achieve desired outcomes (ibid). It involves both dialogue and discussion. Dialogue explores issues openly, while discussion helps in decision-making. Teams must master both to function effectively (Rebelo et al., 2019). Senge emphasises the need for a systemic perspective and language to handle complex problems, moving beyond linear thinking. He also notes the negative impact of defensive routines, which hinder learning when members feel threatened (Argyris, 1985; Senge, 1990). Members also need to feel psychologically safe to fully participate in teams (Edmondson, 1999; Edmondson, 2018). Reflection and inquiry are essential to reduce defensiveness and encourage constructive conflict. A shared vision aligns personal and organisational goals, enhancing cohesion and innovation. It strengthens learning culture and capabilities (Haile & Tüzüner, 2022). While vision statements are common, they often fail to resonate with employees. Effective shared vision requires inclusive leadership and cultural alignment (Berson et al., 2016).

In the dynamic landscape of organisational development, the concept of a learning organisation has gained traction as companies strive to adapt to increasingly complex environments. As organisations confront unprecedented challenges, the ability to foster a culture of continuous learning is critical to sustainable success. The focus shifted from traditional paradigms of employee training to a more holistic view, emphasising systemic learning as a key driver of competitive advantage. Central to this discourse is the Dimensions of Learning Organisation Questionnaire (DLOQ), which operationalises the abstract principles of learning organisations into a structured framework comprising seven dimensions and 21 sub-dimensions. Understanding these dimensions is essential, as they encapsulate the multifaceted nature of organisational learning and provide insights into best practices that support organisational growth and agility (Song et al., 2009).

As Tanzania continues to strengthen public institutions through ongoing performance and service delivery improvements, evidence from this study shows uneven organisational learning across institutions, with a stronger emphasis on structural and leadership dimensions than on people-centred learning behaviours. Such gaps matter

for policy implementation because learning culture influences organisational adaptability and long-term effectiveness (Senge, 1990; Edmondson, 2018; Ju et al., 2021).

A review of the literature reveals several underexplored areas. There is limited empirical evidence on the application of the dimensions of learning organisations in Sub-Saharan Africa, particularly within government institutions (Hoe, 2019). This absence hinders a nuanced understanding of how learning organisation principles apply in developing-country public sectors. In their 2021 study, Ju et al. emphasised the significant role of cultural variables, particularly power distance, in influencing the relationship between learning culture and organisational performance. This finding is particularly relevant in the context of African institutions, where high levels of power distance are commonly observed. In addition, the DLOQ has not yet received any meaningful practical interest in Tanzania. Despite the acknowledged role of learning organisations in improving institutional effectiveness, there is limited empirical evidence on the extent to which Tanzanian public institutions demonstrate the full set of learning organisation characteristics using validated frameworks such as the DLOQ (Watkins & Marsick, 1993; Marsick & Watkins, 2003; Ju et al., 2021). Available studies provide useful insights on learning and innovation barriers but offer limited systematic dimension-level comparisons that can guide public sector reform and institutional performance improvement (Landa et al., 2021; Mohamedi & Mtey, 2024; Alidina et al., 2024). This study fills the gap by providing dimension-level evidence on learning organisation practices across Tanzanian public institutions.

The primary objective of this study has been to assess the extent to which the dimensions of learning organisations are applied within public institutions in Tanzania. Specific objectives were in four folds; firstly, to examine the extent to which individual-level learning practices (i.e. continuous learning, dialogue and inquiry) are fostered within the institutions; secondly, to assess team- and group-level learning practice (i.e., team learning) in the institutions; thirdly, to evaluate organisational-level learning mechanisms (i.e., embedded systems, systems connection, empowerment, and strategic leadership) (for these categorisation (see Marquardt, 1996; Rebelo, Lourenço and Dimas, 2019) and fourthly, to identify strengths and areas for improvement in the application of learning organisations. Accordingly, this study aimed at investigating the effect of mentoring support, knowledge sharing and professional development on research performance of academic staff in Tanzanian public universities in Tanzania. The study is anchored in the Communities of Practice (CoP) theory in which peer mentoring is conceptualised as a community-based academic discipline that staff engage in, share academic understandings, receive academic support from their peers, and build research skills (Nuis *et al.*, 2023; Lunsford *et al.*, 2017). The research used the Partial Least Squares Structural Equation Modeling (PLS-SEM) to empirically test the hypothesised relationships, to address methodological demands of more rigorous multivariate research in the field of higher education research. By using PLS-SEM, the study adds empirical evidence to a peer mentoring model in a multidimensional paradigm in a developing higher education context to offer practical guidance for university managers and policy makers looking to enhance the performance of research through the implementation of structured collegial development practices.

LITERATURE REVIEW

Theoretical review

DLOQ Tool application in assessing a learning organisation

The Dimensions of Learning Organisation Questionnaire (DLOQ) is a widely used instrument developed in the 1990s to assess organisational learning culture (Marsick, 2013). It was created in response to the increasing importance of organisational learning for sustainability and competitive advantage. The DLOQ has been extensively

used for organisational research across various countries, languages, and settings (Marsick, 2013). Research has demonstrated its applicability in diverse contexts, including healthcare systems in low-resource settings (Leufvén et al., 2015) and private ophthalmology organisations (Gheorghe et al., 2018). The DLOQ has been utilised to guide policy development for small and medium enterprises (Kim & Marsick, 2013) and to examine relationships between learning organisation strategies and performance outcomes (Holton & Kaiser, 2000). Meta-analyses have shown positive correlations between DLOQ scores, organisational performance, and employee attitudes (Ju et al., 2021). The DLOQ measures seven dimensions of a learning organisation's culture, which can be used to classify different organisational types and to demonstrate correlations with organisational performance (Ya-Hui Lien et al., 2006). The instrument has been validated and adapted for use in multiple cultural contexts, including Spanish-speaking populations (Hernandez & Watkins, 2003), Chinese (Wang & Yang, 2007; Ya-Hui Lien et al., 2006; Zhang et al., 2004), Indian (Bhaskar & Mishra, 2017; Ponnuswamy & Manohar, 2016), and Korean (Song et al., 2009) settings. Interestingly, while the DLOQ has shown positive relationships with various organisational outcomes, such as financial, knowledge, and innovative performance, as well as employee attitudes like job satisfaction and organisational commitment, it has a notable negative relationship with turnover (Ju et al., 2021). Additionally, national culture, particularly power distance characteristics, has been found to moderate the relationship between learning organisation characteristics and overall organisational performance (Ju et al., 2021).

The exploration of the DLOQ has evolved significantly since its inception, highlighting the intricate nature of organisational learning. Initially, the framework, established by Watkins and Marsick, introduced seven primary dimensions that outline the characteristics of a learning organisation, emphasising the dynamic interplay between individual and collective learning processes (Song et al., 2009). These dimensions include continuous learning, inquiry and dialogue, team learning, embedded systems, empowerment, system connection, and strategic leadership (Bhaskar & Mishra, 2017). Subsequent studies have operationalised the seven dimensions using either a long form with 43 subdimensions/items or a short form with 21 subdimensions/items. The operationalisation offered a more nuanced understanding of how entities can cultivate a culture conducive to continuous learning (Soelton, 2023). Notably, the sub-dimensions categorisation has been instrumental in identifying specific areas for improvement within organisations, such as shared vision and supportive learning environments, which are crucial for fostering innovation and adaptability (Rusok et al., 2023). Throughout the years, researchers have argued for the necessity of these dimensions and subdimensions, asserting that they facilitate not only individual growth but also institutional resilience and effectiveness (Goula et al., 2020).

Moreover, the chronological progression of the literature reflects growing recognition of the DLOQ's applicability across sectors, demonstrating that organisations dedicated to learning often outperform their counterparts in profitability and employee satisfaction (Elbawab, 2021). The current body of literature underscores the importance of each dimension and sub-dimension in the broader organisational context, advocating strategies that align with these principles to leverage organisational learning as a competitive advantage. This ongoing discourse highlights the essential role of continuous learning in navigating today's complex organisational landscape.

A deep exploration of the literature surrounding the DLOQ reveals several key themes relevant to its seven dimensions and 21 sub-dimensions. Central to these discussions is the concept of a learning culture, which has been emphasised across various studies as a foundational element in fostering organisational learning. For instance, the importance of promoting a shared vision and values resonates throughout the literature, being identified as a core dimension that enhances employee engagement and learning effectiveness (Song et al., 2009). Moreover, the interrelation between leadership and organisational learning is another central theme. Research indicates that transformational leadership plays a significant role in cultivating a learning-conducive environment,

with such leaders facilitating processes aligned with the DLOQ's dimensions (Rusok et al., 2023; Soelton, 2023). This synergistic relationship significantly advances the organisation's ability to adapt and innovate. Team dynamics and collaboration emerge as vital subdimensions, with numerous studies highlighting how teamwork and collective problem-solving drive knowledge sharing and idea generation across workforce levels (Goula et al., 2020).

Additionally, the literature underscores the role of continuous improvement practices in embedding learning into everyday operations, a process inherently linked to enhancing organisational performance outcomes. By synthesising these insights, it becomes evident that the dimensions outlined in the DLOQ are not isolated phenomena but are interconnected factors that collectively contribute to the development of a robust learning organisation. Such a comprehensive understanding is indispensable for both researchers and practitioners aiming to implement effective learning strategies within their organisations.

Team- and group-level learning processes (e.g., team learning and embedded systems) need to be embraced as another important area of a learning organisation (Senge, 1990). At the organisational level, learning is fostered when organisations transform individual knowledge into organisational knowledge. The presence of systems connection, empowerment, and leadership for learning can assist organisational-level learning. Systems connection entails institutionalised structural and procedural arrangements that enable organisations to systematically gather, store, retrieve, disseminate, and use relevant information. For structures to work, they need to be aligned with organisational culture. The culture that supports individual and team learning is crucial for achieving a learning organisation. They include, for example, teamwork, a culture of teamwork, shared values, and open communication that allows for inquiry and dialogue (Popper & Lipshitz, 1998; Schechter & Feldman, 2010). Where the two are present, individuals in the organisations are likely to be empowered. These do not occur in a vacuum; they rely on leadership that values learning, such as transformational leadership (Rusok et al., 2023; Soelton, 2023).

Rewarding learning is a crucial enforcer of learning organisation culture. Annan-Prah, Baffoe and Andoh (2023) suggested that, to get senior staff on board, organisations need to reward them and provide them with challenging tasks. Otherwise, they seemed less engaged in learning organisation than staff with fewer years of work experience (below 10 years). Rewards can motivate senior staff to be mentors and share knowledge through mentorship and teamwork.

The exploration of the seven dimensions of the learning organisations has been illuminated through various methodological approaches. The methodological rigor applied to quantify these dimensions enables a deeper understanding of their impacts, particularly on employee engagement and retention (Soelton, 2023). Moreover, the dimensions of "Shared Vision" and "Team Learning" have been explored through qualitative methods that uncover the nuanced interpersonal dynamics within organisations. These studies illuminate how collaborative learning environments contribute to a shared sense of purpose, highlighting the intricate connections between team cohesion and organisational performance (Rusok et al., 2023). In contrast, quantitative methods often highlight the outcomes associated with these dimensions through statistical analyses, affirming a direct correlation between strong shared visions and organisational effectiveness (Goula et al., 2020). This methodological diversity underscores the multifaceted nature of the dimension's constructs, enabling a richer interpretation of learning dynamics across varied organisational contexts. Ultimately, the synthesis of these different methodological perspectives enriches our understanding of each dimension's importance and their collective impact on organisational learning.

Exploring the dimensions of the learning organisation reveals a rich tapestry of theoretical perspectives that collectively inform our understanding of organisational learning. The conceptual framework underlying the dimensions is grounded in the synthesis of various learning theories, emphasising the interdependence of dimensions such as continuous improvement and shared vision. For instance, the works of various scholars underscore the critical role of a shared vision in fostering collaborative cultures, aligning with findings that indicate organisations thrive when members are unified by common goals and values (Soelton, 2023). Moreover, the significance of continuous learning, as outlined in the dimensions, challenges traditional views of organizational knowledge as static. Instead, it adopts a dynamic perspective that sees learning as a fluid process, crucial for adaptability in ever-changing environments (Rusok et al., 2023). The incorporation of feedback loops further strengthens this argument, as researchers assert that regular reflection and adjustment are vital to sustaining organisational effectiveness (Goula et al., 2020). Ultimately, the integrative exploration of the dimensions fosters a comprehensive understanding of organisational learning, revealing both convergences in theoretical thought and tension in practice, thus enriching the discourse surrounding effective organisational strategies

The Application of the Dimensions of Learning Organisations in public institutions

Although the dimensions of the learning organisation concept originated in corporate environments, its application has expanded to public organisations. Leufvén et al. (2015), for example, utilised the DLOQ to assess the characteristics of learning organisations in healthcare settings in Nepal, a low-resource country. Their findings suggest the dimensions relevance in hierarchical, resource-constrained public systems. Chinese scholars (Wang & Yang, 2007; Zhang et al., 2004) have applied DLOQ to explore the links between learning culture and innovation in state-owned enterprises.

Drawing on the learning organisation framework advanced by Watkins and Marsick, empirical studies in school contexts show that learning organisations function through multilevel interactions among leadership, organisational culture, and individual learning practices. Evidence indicates that principals' leadership styles and teachers' personal commitment significantly shape learning organisation outcomes, largely through the mediating role of organisational culture, which supports shared vision, collaboration, and continuous learning (Kareem et al., 2025). Complementary findings using the Dimensions of the Learning Organisation Questionnaire (DLOQ) reveal that learning practices are most strongly embedded at the organisational level, particularly through dialogue and inquiry, communication systems, and leadership for learning (Tarmizi et al., 2025). However, weaker empowerment practices highlight continuing limitations

Studies using DLOQ have also compared the application of learning organisation theory in state-owned corporations with that in private companies. In Vietnam, it was found that state-owned companies had higher scores on the application of learning organisation dimensions than private companies (Nguyen-Duc et al., 2023).

These studies underscore the DLOQ's potential to capture organisational learning across diverse settings. However, there remains a strong bias in the literature toward private sector organisations in middle- and high-income countries. The unique dynamics of the public sector—including bureaucratic structure, accountability demands, and political influence—are not sufficiently explored in DLOQ studies.

Relevance of learning organisation to Tanzanian Public Institutions

Tanzania's public institutions are in a phase of systemic reform aimed at enhancing efficiency, transparency, and service delivery. Embedding a learning organisation's culture is aligned with these objectives. Understanding whether and how public institutions exhibit the characteristics of learning organisations can inform evidence-based reforms, capacity-building initiatives, and leadership development.

Studies on learning in public organisations in Tanzania, limited to specific organisations and/or specialisations, have generally yielded mixed results. Organisations in the health sector are doing relatively better. Organisational learning is generally rated positively by staff in the public health facilities, especially surgical departments, with a 95.1% positive response rate for learning environment indicators. However, "time for reflection"—a key individual learning practice—scored much lower (62.5%), indicating that while collective learning is encouraged, opportunities for individual reflection and growth are less consistent (Alidina et al., 2024).

Institutional barriers are among the factors that limit individual-level learning (Landa et al., 2021; Mohamedi & Mtey, 2024). Some studies have observed the inconsistency in fostering individual learning practices (Alidina et al., 2024; Mohamedi & Mtey, 2024). Factors that were mentioned as hindering effective learning observed in the study at the Higher Education Students' Loans Board in Tanzania included insufficient budget, lack of a supportive organisational vision, and policy (Mohamed & Mtey, 2024). It is further revealed that management support is a crucial component if organisations want employees to embrace change, which is the essence of learning (Landa et al., 2021). For example, academics at higher education institutions were reluctant to transform their teaching to be more innovative through ICT because, among other reasons, they perceived that their management was not supportive of that change (Landa et al., 2021).

The current study addresses the identified gaps by exploring the extent to which public organisations in Tanzania apply the dimensions of learning organisations. By doing so, it contributes to both the theoretical discourse on learning organisations in non-Western and Asian public contexts and the practical efforts to improve institutional performance through a learning-oriented culture.

METHODS AND PROCEDURES

Participants

The study involved 295 respondents drawn from 32 public institutions in Tanzania. The organisations were conveniently selected from available lists of public organisations grouped into Ministries, Executive Agencies, Independent Departments and Public Corporations. These institutions varied considerably in size, with employee counts ranging from fewer than 50 to over 1,000. Specifically, 97 respondents came from institutions with over 100 employees, 67 from those with more than 1,000, and 61 from those employing over 50, whereas 55 came from those employing over 500. Fifteen participants represented institutions with fewer than 50 employees. The survey was conducted over two months, from May to July, 2024.

The participants held a range of positions within their respective organisations. The average tenure among respondents was approximately 7.13 years (SD = 5.352), with individual tenures ranging from 1 to 30 years. The median tenure was 6 years, indicating a moderately experienced workforce across the sample. The inclusion criteria focused on permanent employees with at least one year of service. Participation was voluntary, and ethical considerations, including informed consent and confidentiality assurances, were observed throughout the study.

Instrumentation and study design

The study employed the DLOQ, developed by Watkins and Marsick (1997), to assess key variables related to the learning organisation. The DLOQ consists of multiple items covering seven dimensions: continuous learning, inquiry and dialogue, team learning, embedded systems, empowerment, systems connection, and strategic leadership. Each dimension had 3 subdimensions, for a total of 21 items. Respondents rated each item on a 6-point Likert scale, with response options ranging from 1 (*almost never*) to 6 (*almost always*), including 2 (*rarely*), 3 (*occasionally*), 4 (*sometimes*), and 5 (*frequently*). Higher scores reflected greater perceived presence of learning organisation practices within the respondents' organisations. The 6-point scale was used to encourage participants to express a clear stance, avoiding a neutral midpoint. Internal consistency reliability for the seven DLOQ dimensions was assessed using Cronbach's alpha, with coefficients ranging from 0.626 to 0.752, indicating acceptable to good reliability for three-item scales (see Table 5). This study aimed to assess the prevalence of learning organisation culture; therefore, a cross-sectional design was the most appropriate. Similar studies on dimensions of learning organisations have applied similar tools and design (e.g. Goula et al., 2021)

Data collection

The questionnaires were distributed to 295 employees of 32 selected public institutions in Tanzania. Participants were informed of the purpose of the study and provided informed consent prior to participation. The response was 100%. The high response rate was due to the study including only employees willing to participate. Data collection was carried out over a period of one month, and responses were collected in paper-based format. The completed questionnaires were reviewed for completeness and accuracy before being entered into the statistical software for analysis.

Data analysis

Data were analysed using descriptive statistics to summarise participants' responses on the DLOQ. For each of the seven dimensions, measures of central tendency (mean and median), variability (standard deviation, interquartile range, and range), and distribution shape (skewness and kurtosis) were calculated. Sample size (N) was reported for each dimension. In addition, the normality of the data distributions was assessed using the Shapiro–Wilk test, and the corresponding *p*-values were reported. Results were presented in tabular form to facilitate interpretation and comparison across dimensions. All analyses were conducted using SPSS version 26.

Ethical consideration

This study adhered to ethical research standards to protect participants' rights and privacy. Participants were informed about the purpose of the study, the voluntary nature of their participation, and their right to withdraw at any time without any consequences. Informed consent was obtained verbally from all participants. Verbal consent was deemed appropriate because the study posed minimal risk and involved routine organisational reflections. In addition, participants expressed greater comfort providing oral rather than written consent in this workplace context. The ethics committee approved the use of verbal consent.

Confidentiality was assured by anonymising the data and limiting access to the researchers only. No identifying personal information was collected. The study did not involve any deception or potential harm to participants

FINDINGS AND DISCUSSION

This study employed the Dimensions of the Learning Organisation Questionnaire (DLOQ) to assess perceptions of learning culture across 295 organisations in Tanzania. The DLOQ covers key dimensions of a learning organisation, namely continuous learning, inquiry and dialogue, team learning, embedded systems, empowerment, systems connection, and strategic leadership. These were operationalised using three questions per item (as shown in Table 1). The questions and their results are presented in Tables 1 and 2. As shown in Table 1, the first three questions, QN 1, QN 2 and QN 3, respond to Continuous learning, QN 4 to QN 6 respond to inquiry and dialogue, QN 7 to QN 9 respond to Team learning, QN 10 to QN 12 respond to embedded systems, and QN 13 to QN 15 respond to empowerment. QN 16 to QN 18 respond to the Systems connection. QN 19 to QN 21 respond to Strategic leadership dimensions. Descriptive statistics were computed to assess participants' perceptions of the seven dimensions of a learning organisation. Each item was measured on a 6-point Likert scale ranging from 1 (Almost Never) to 6 (Almost Always).

Item-Level results

The analysis of the 21 individual items (see Table 1) revealed generally favorable perceptions of learning practices. Within the Continuous Learning dimension, the organisation appears to value peer-supported learning ($M = 4.19$) and allocates time for learning activities ($M = 4.11$). However, rewards for learning were less evident ($M = 3.66$), aligning with previous research indicating that extrinsic recognition is often underdeveloped in public-sector organisations.

In the Inquiry and Dialogue dimension, open feedback ($M = 4.12$) received the highest rating, while trust-building ($M = 3.79$) and the practice of soliciting others' views ($M = 3.75$) were less frequently endorsed. These findings highlight a partial implementation of reflective learning behaviours, suggesting that dialogical practices may benefit from deeper cultural reinforcement.

Team Learning results indicated that collaborative thinking ($M = 4.08$) and adaptive goal-setting ($M = 3.96$) are moderately embedded. However, confidence in organisational responsiveness to team input ($M = 3.78$) was slightly weaker, possibly reflecting a perceived gap between participation and impact—an issue noted in organisational learning theory (Argyris & Schön, 1996).

In the Embedded Systems domain, the organisations scored highly on measurement of gaps ($M = 4.26$) and evaluation of training investment ($M = 4.25$), suggesting strong structural support for learning. However, the availability of lessons learned to all employees ($M = 3.89$) scored lower, indicating a need for more transparent knowledge-sharing systems.

Empowerment items showed moderate recognition of initiative ($M = 3.92$) and access to resources ($M = 3.98$), but the lowest-rated item in this domain concerned risk-taking ($M = 3.85$), reinforcing concerns raised in the literature about the risk aversion common in hierarchical institutions.

In the Systems Connection dimension, collaboration with external communities ($M = 4.41$) received the strongest endorsement across all items, underscoring a well-developed sense of civic partnership. However, global thinking ($M = 3.94$) and internal cross-functional problem-solving ($M = 3.99$) were slightly less emphasised.

Lastly, Strategic Leadership items were among the highest-rated, particularly the alignment of leadership behaviour with organisational values (M = 4.42), indicating a strong presence of value-based leadership—a key pillar in learning organisation theory.

Table 1

Descriptive Statistics for Dimensions of Learning Organisations Questionnaire for Each Item (N=295)

Statement	N	Mean	SD	Median	IQ R	Range	Normality P Value
Dimension 1: Continuous Learning							
QN1. In my organisation, people help each other to learn	295	4.19	1.263	4	2	5	0.000
QN2. In my organisation, people are given time to support learning	295	4.11	1.326	4	2	5	0.000
QN3. In my organisation, people are rewarded for learning	295	3.66	1.494	4	3	5	0.000
Inquiry and Dialogue							
QN4. In my organisation, people give open and honest feedback to each other	295	4.12	1.27	4	2	5	0.000
QN5. In my organisation, whenever people state their views, they also ask what others think	295	3.75	1.373	4	2	5	0.000
QN6. In my organisation, people spend time building trust with each other	295	3.79	1.392	4	2	5	0.000
Team Learning							
QN7. In my organisation, teams/groups have the freedom to adapt their goals as needed	295	3.96	1.277	4	2	5	0.000
QN8. In my organisation, teams/groups revise their thinking as a result of group discussions or information collected	295	4.08	1.234	4	2	5	0.000
QN9. In my organisation, teams/groups are confident that the organisation will act on their recommendations	295	3.78	1.395	4	2	5	0.000
Embedded Systems							
QN10. My organisation creates systems to measure gaps between current and expected performance	295	4.26	1.435	4	2	5	0.000
QN11. My organisation makes its lessons learned available to all employees	295	3.89	1.377	4	2	5	0.000
QN12. My organisation measures the results of the time and resources spent on training	295	4.25	1.232	4	1	5	0.000
Empowerment							
QN13. My organisation recognises people for taking initiatives	295	3.92	1.374	4	2	5	0.000

QN14. My organisation gives people control over the resources they need to accomplish work	29 5	3.98	1.26	4	2	5	0.000
QN15. My organisation supports employees who take calculated risks	29 5	3.85	1.45 9	4	2	5	0.000
Systems Connection							
QN16. My organisation encourages people to think from a global perspective	29 5	3.94	1.38 6	4	2	5	0.000
QN17. My organisation works together with the outside community to meet mutual needs	29 5	4.41	1.19 4	5	1	5	0.000
QN18. My organisation encourages people to get answers from across the organisation when solving problems	29 5	3.99	1.42 5	4	2	5	0.000
Strategic Leadership							
N19. In my organisation. Leaders mentor and coach those they lead	29 5	4.12	1.31 3	4	2	5	0.000
QN20. In my organisation, leaders continually look for opportunities to learn	29 5	3.95	1.36 4	4	2	5	0.000
QN21. In my organisation, leaders ensure that the organisation's actions are consistent with its values	29 5	4.42	1.31 2	5	1	5	0.000

Note: $P > 0.05$, normally distributed data; $P < 0.05$, non-normally distributed data.

IQR = Interquartile Range; SD = Standard Deviation

6-point Likert scale (1 = almost never, 2 = rarely, 3 = occasionally, 4 = sometimes, 5 = frequently, 6 = almost always).

Dimensions-Level results

Table 2 presents the mean scores, standard deviations, medians, interquartile ranges (IQR), skewness, and kurtosis for each of the seven dimensions. Dimension-wise analysis confirmed the item-level patterns. Overall, the results indicate that participants generally reported moderate-to-frequent engagement with learning organisation practices. Strategic Leadership ($M = 4.16$, $SD = 1.08$) suggested that participants perceived this dimension as occurring between "sometimes" and "frequently." Similarly, Embedded Systems ($M = 4.14$, $SD = 1.02$) emerged as the strongest dimension, suggesting that the formal and leadership aspects of learning are well supported. Systems Connection ($M = 4.11$, $SD = 1.10$) also performed well, highlighting the organisation's attention to external linkages.

Continuous Learning ($M = 3.98$, $SD = 1.07$), Team Learning ($M = 3.93$, $SD = 1.05$), and Empowerment ($M = 3.91$, $SD = 1.08$) showed slightly lower means. However, it remained above the scale's midpoint (3.5), signifying moderate consistency in the presence of these practices. The dimension with the lowest mean was Inquiry and Dialogue ($M = 3.88$, $SD = 1.08$), though still above the midpoint, indicating that opportunities for open communication occur but less consistently than other dimensions. These scores suggest that while structural and strategic learning mechanisms are strong, cultural enablers such as trust, dialogue, and psychological safety may require reinforcement. The interquartile ranges (IQRs) ranged from 1.33 to 1.67, indicating moderate variability in responses. Continuous learning had the smallest IQR (1.33), indicating relatively high agreement among participants, whereas dimensions such as Empowerment, Systems Connection, and Strategic Leadership had broader IQRs (1.67), reflecting more diverse perspectives.

The slightly left-skewed distributions across dimensions (e.g., Team Learning: skewness = -0.547) indicate a general tendency toward agreement on learning practices. Kurtosis values ranged from -0.686 to 0.093 , indicating

that most distributions were slightly flatter than normal, with no extreme outliers. However, the non-normality indicated by the Kolmogorov-Smirnov tests ($p < .001$ for all items) suggests diverse perspectives or subgroup differences, which future research might explore further.

Table 2
Descriptive Statistics for Learning Organisations Dimensions (N = 294)

Dimension	Mean	SD	Median	IQR	Skewness	Kurtosis
Continuous Learning	3.98	1.07	4.00	1.33	-0.354	-0.315
Inquiry & Dialogue	3.88	1.08	4.00	1.67	-0.160	-0.686
Team Learning	3.93	1.05	4.00	1.42	-0.547	-0.072
Embedded Systems	4.14	1.02	4.33	1.42	-0.565	0.093
Empowerment	3.91	1.08	4.00	1.67	-0.318	-0.284
Systems Connection	4.11	1.10	4.17	1.67	-0.403	-0.474
Strategic Leadership	4.16	1.08	4.33	1.67	-0.520	0.047

Note: SD = Standard Deviation; IQR = Interquartile Range. All variables were measured on a 6-point Likert scale (1 = almost never, 2 = rarely, 3 = occasionally, 4 = sometimes, 5 = frequently, 6 = almost always)

Table 3
Test of reliability for the Seven Learning Organisations Dimensions (N = 295)

DLOQ Dimension	Number of items	Cronbach's Alpha
Continuous Learning	3	.679*
Inquiry and Dialogue	3	.717
Team Learning	3	.739
Embedded Systems	3	.626*
Empowerment	3	.701
Systems Connection	3	.752
Strategic Leadership	3	.747

Note: Cronbach's Alpha Values of .679 and .626 for Continuous learning and embedded systems, respectively, indicate moderate internal consistency. Given the short scale (3 items), this level of reliability is considered acceptable. The remaining items have Cronbach's alpha greater than .7, indicating good internal consistency.

Table 3 summarises the reliability analysis. All dimensions met the minimum recommended reliability thresholds, with five exceeding the conventional .70 criterion and the remaining two showing moderate yet acceptable internal consistency for three-item scales.

DISCUSSION

DISCUSSION

Overview of Key Findings

This study shows that Tanzanian public institutions perform more strongly on organisational-level learning dimensions—such as strategic leadership, systems connection, and embedded systems—than on people-centred dimensions like continuous learning, empowerment, team learning, and inquiry and dialogue. In simple terms, the structures that support learning seem to be in place, but the learning culture among staff is still developing.

Senge's learning organisation perspective

These results can be understood through Senge's theory of the learning organisation, which highlights five key disciplines: systems thinking, shared vision, personal mastery, mental models, and team learning (Senge, 1990). The relatively high scores for systems connection and strategic leadership suggest that elements of shared vision and systems thinking are emerging in these institutions. Leaders appear to signal that learning is valued, and organisations are increasingly outward-looking in their operations. However, the lower scores in inquiry and dialogue, empowerment, and team learning suggest that employees may still feel cautious about questioning assumptions or experimenting with new ideas. Senge reminds us that structures alone do not create a learning organisation (Senge, 1990); learning depends on people feeling psychologically safe enough to speak openly and learn from mistakes (Edmondson, 2018).

People-centred learning is still maturing.

Although continuous learning was rated moderately, rewards for learning were among the lowest-scoring items. This reflects earlier findings in Tanzanian public institutions where learning is encouraged, but rarely recognised or incentivised (Mohamedi & Mtey, 2024). Without encouragement or acknowledgement, it becomes difficult for staff to invest in their own development.

Team learning also showed scope for improvement. While teams exist formally, the relatively modest scores for trust and open communication suggest that collaboration may remain quite cautious. This pattern is common in hierarchical systems, where seniority still shapes communication behaviours. It also echoes the view that true team learning requires honest inquiry and shared reflection rather than routine participation in meetings (Senge, 1990).

Alignment with previous research

The findings are consistent with work from Vietnam and other public-sector contexts, where institutions tend to score more highly on structural elements of learning than on human-centred ones (Nguyen-Duc et al., 2023). They also reinforce Tanzanian studies showing that learning is sometimes limited by resource constraints, leadership style, or a lack of incentives (Landa et al., 2021; Mohamedi & Mtey, 2024).

However, this study goes a step further by showing that the imbalance between structural and people-based learning is systemic across institutions, not just situational. While Tanzanian public institutions appear to be moving towards becoming learning organisations, the "people side" of learning — trust, mentoring, recognition, and

reflective dialogue — is still catching up. The results of this study, however, contrast with those of a study in Malaysia, which demonstrate that learning organisation practices are most strongly embedded at the organisational level, particularly through dialogue and inquiry, communication systems, and leadership for learning (Tarmizi et al., 2025).

Practical implications

These findings suggest that reform efforts should focus not only on building systems and procedures, but also on nurturing a stronger learning culture among staff. This includes encouraging open dialogue, valuing reflective practice, rewarding learning behaviour, and strengthening psychological safety — conditions that allow Senge's learning disciplines to reinforce one another over time.

CONCLUSION

This study examined the extent to which Tanzanian public institutions demonstrate the characteristics of a learning organisation using the DLOQ framework. The results show a strong presence of structural and leadership-related dimensions, particularly strategic leadership, embedded systems, and systems connection. However, cultural and people-focused aspects—such as continuous learning, inquiry and dialogue, empowerment, and team learning—were practiced less consistently. This imbalance suggests that while formal systems and leadership support are in place, the interpersonal and cultural foundations of organisational learning require greater attention.

The findings contribute to the broader discourse on learning organisations by extending empirical evidence to Sub-Saharan Africa's public sector, where research has been limited. They emphasise that structural reforms alone cannot drive organisational learning without parallel efforts to strengthen trust, dialogue, recognition, and psychological safety. Policymakers and leaders should therefore prioritise reward systems for learning, promote inclusive dialogue, and embed learning principles into capacity-building frameworks. Future research could adopt longitudinal or mixed-methods approaches to explore how these practices evolve and influence outcomes such as innovation and service delivery. Additionally, the research could focus on one sector to identify a sector-specific learning culture.

In conclusion, Tanzanian public institutions show encouraging signs of progress toward becoming learning organisations but must balance formal mechanisms with cultural transformation. Achieving this balance is essential if they are to embed continuous learning as a collective responsibility and leverage it for sustainable organisational effectiveness. Overall, strengthening a learning culture through enforceable institutional standards and incentives is essential for ensuring that Tanzania's public sector reforms translate into sustainable organisational improvement and better public service delivery outcomes.

POLICY IMPLICATIONS

The findings of this study reflect ongoing public sector reforms in Tanzania, such as the Public Service Reform Programme (PSRP), decentralisation through devolution, and Results-Based Management (RBM), including PEPMIS, MTEF, and Annual Performance Reports. While these reforms have strengthened institutional structures, performance systems, and leadership accountability, this study highlights ongoing gaps in people-centred learning areas like empowerment, inquiry, dialogue, and continuous learning. To address this issue, policymakers should incorporate learning organisation principles into current reform frameworks. This means adding learning indicators to PEPMIS and other RBM systems, boosting incentives for knowledge sharing under the Public Service Management and Employment Policy, and connecting digital transformation efforts with organisational learning

strategies. This approach will help ensure that Tanzania's public sector reforms not only improve efficiency but also promote adaptability, innovation, and long-term institutional effectiveness.

Authors' Contributions

Conceptualisation: Mary M. Rutenge. Literature Review: Mary M. Rutenge did the initial draft, and Faisal H. Issa refined the review—Data Collection and Analysis: Both Mary M. Rutenge and Faisal H. Issa. Mary M. Rutenge did the data analysis, whereas both contributed to writing the discussion section. Development of draft manuscript: Mary M. Rutenge.

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