



Training and development strategies and the sustainability of records-keeping systems in international oil companies in Juba, South Sudan

Abraham Daniel Alier¹, Muhammad Kibuuka², Jude Bassey³ & Habib Shehu⁴

1,2,3 College of Economics & Management, Kampala International University, Uganda

4 School of Mathematics & Computing, Kampala International University, Uganda

Corresponding Author: habib.shehu@studmc.kiu.ac.ug

Abstract

The research aims to examine the relationship between training and development (T&D) strategies and sustainability of records-keeping systems in the international oil companies (IOCs), work in Juba, South Sudan, where the competencies of employees are examined as the mediator and organizational/contextual factors as moderators. Based on a descriptive-explanatory design, data on 175 records-related staff members in four IOCs were obtained using a validated questionnaire. The SPSS (v28) and Hayes (PROCESS Macro) analyses indicated that T&D strategies are highly significant and positive predictors of records system sustainability ($\beta = 0.38$, $p < 0.01$). This relationship is completely mediated by employee competencies, which proves training to have effects on sustainability only in case it is transformed into practical skills. The effect is considerably moderated by technological infrastructure, institutional capacity and regulatory support with better results in enabling environments. The results are empirical evidence of Human Capital Theory and the Resource-Based View both show that sustainability of records management in weak environments relies on the ability of the human and other resources that complement the human capacity. Practical implications involve the need to diversify training by not only workshops but also by applying digital and mentoring training, enhancing workforce competencies, and ensuring facilitative institutional and technological systems to facilitate the integrity of records in the key oil sector in South Sudan.

Keywords: Training and Development, Records-Keeping Sustainability, Employee Competencies, International Oil Companies, South Sudan, Human Capital Theory.

Introduction

The economy of South Sudan is one-sidedly based on the oil and gas industry (around 90% of government income, more than 95% of export revenue) (World Bank, 2023; IMF, 2024). The strategic nature of such a high degree of reliance is the significance of operational integrity in international oil companies (IOCs) working in

Juba, the city that serves as the de facto administrative and logistical center of the upstream processes in the country. Nevertheless, the working environment of IOCs is challenging and extremely risky and is marked by the fragility of post-conflict institutions, infrastructural deficits, fluctuating regulations, and a violence of lack of technically skilled staff (Lado, 2022; Pinaud, 2021; ILO, 2020). Such contextual constraints increase the

demand of strong, sustainable administrative systems, especially records-keeping systems, which are a crucial infrastructure to regulatory compliance, contract lifecycle management, production reporting, environmental monitoring, and inter-agency coordination (Abraham, Schneider, and vom Brocke, 2019; Transinformação, 2025).

This is relevant in the oil and gas sector, where the operations are highly regulated (e.g., ISO 31000, API RP 75) and have multi-jurisdictional jurisdiction, in which case poor records management may lead to financial fines, legal actions, audit scandals, and reputational loss (UNEP, 2020; NRG, 2022). The increased digitisation of operations, such as the implementation of enterprise resource planning (ERP) systems, cloud-based document archives, and AI-based data analytics solutions, has changed records-keeping as a passive archival service to a dynamic and strategic service (Jacobs, 2018; Waqar et al., 2023; Chen et al., 2025). However, the sustainability of these systems in the form of long-term reliability, compliance adherence, and operational utility does not primarily rely on technological investment, but rather on the ability, the sustainability, and dedication of personnel who will have to manage the records throughout their lifecycle (Abraham et al., 2019; Kodisang, 2025).

This aspect of humanity is particularly paramount in South Sudan where the local capacity in information governance and records management is still immature, and there are practically no formal training opportunities in records management (Pinaud, 2021; Kodisang, 2025). Under those circumstances, the quality of organizational training and development (T&D) strategies has been the determining factor in whether the advanced records systems can be used to benefit the organization or they can decay under misuse, negligence, or even turnover of staff. Based on the resource-based view of the firm (Barney, 1991) and human capital theory (Becker, 1964), modern HR literature assumes that knowledge and skills of the

employees are valuable, rare and inimitable resources, which directly increase organizational resilience and performance (Wright, Dunford, and Snell, 2001; Boxall, 1996). Empirical observations prove that well-organized T&D programs have a great positive effect on job performance, the commitment of the organization and system compliance behaviours.

Sustainable records management also goes beyond technical expertise, necessitating institutionalized data management, such as standardized classification schemes, retention schedules, access controls and lifecycle protocols (Abraham et al., 2019). Since AI and automation become a part of data workflows in the context of IOCs (Chen et al., 2025; Waqar et al., 2023), the likelihood of fragmented data, the loss of metadata, or bias from the algorithm intensifies and requires even more advanced capabilities among staff members. Devoid of ongoing, context-driven training, the digital records systems will become a liability to the compliance instead of a strategic asset (Transinformação, 2025; Ufua et al., 2021).

This notwithstanding, experience in weak economies shows that a lack of investment in personnel development is closely associated with a poor compliance rate, low morale, and abandonment of the system (Joseph, 2015; Ogunbodede, 2016; Kodisang, 2025). On the other hand, organizations that entrench T&D in their organizational culture enhance proactive management of information resources and more adaptive in turbulent environments (Ahmed et al., 2025; Scherbaum, Naidoo, and Saunderson, 2022).

However, there is no published empirical research that specifically investigates how training and development practices are related to the records-keeping systems sustainability among the international oil companies in South Sudan. Recent literature is inclined to approach the sphere of human resource development, digital transformation, and organizational sustainability separately, and pay little attention to the integration

of records management as a fundamental governance activity (Bashir, Alfalih, and Pradhan, 2022; Ufua et al., 2021). That gap is discussed in this work where the researchers examined the impact of T&D interventions on the longevity, reliability, and effectiveness of records systems in IOCs functioning in Juba. Through it, it brings new empirical data and policy-applicant recommendations in the overlapping human capital growth, information management, and long-term operations in resource-dependent and fragile environments.

Statement of the Problem

In Juba, South Sudan, the international oil companies (IOCs) are unable to maintain effective records-keeping despite heavy investments in digital records systems due to inconsistency in documentation, bad data governance, and lack of lifecycle management of records (Abraham, Schneider, and vom Brocke, 2019; Kodisang, 2025). South Sudan has been facing challenges due to the institutional weaknesses in the country, such as low levels of local expertise and unstable regulatory environment following the conflict (Lado, 2022; Pinaud, 2021). Most importantly, the introduction of technology has not been accompanied by a specific training and development (T&D) on records management procedures, which has resulted in the underutilization of the systems and a risk of compliance (Transinformação, 2025; Ufua et al., 2021). Although current studies associate T&D with overall employee performance and employee engagement (Ahmad, Farrukh, and Nazir, 2015; Tien Thanh and Thu Ha, 2024), it does not pay much attention to its contribution to the maintenance of specialized administrative systems such as records management. On the other hand, record sustainability in extractive industries is a technological or policy-based study that does not address the aspects of human capital (Bashir, Alfalih, and Pradhan, 2022). Interestingly, no empirical investigation is done to determine the effects of T&D strategies on the sustainability of records-keeping in IOCs, which have to work in

delicate environments such as those in South Sudan. This paper fills that gap by examining how training and development programs relate to sustainability of records-keeping systems in the oil industry of Juba, which is a crucial contribution due to the sector being a source of national income (World Bank, 2023) and being a strategic asset to government and accountability.

Objective of the Study

- i. To determine the nature and extent of training and development plans that have been embraced by foreign oil firms in Juba, South Sudan.
- ii. To quantify the degree of sustainability of records-keeping systems in international oil companies in use in Juba, South Sudan.
- iii. To identify the association between training and development strategies and the sustainability of records-keeping systems in the international oil companies in Juba, South Sudan.
- iv. To test how the employee competencies facilitate the relationship between training and development strategies and records-keeping system sustainability in international oil companies in Juba, South Sudan.
- v. To determine organizational and contextual aspects that can determine the effectiveness of training and development strategies to ensure the sustainability of records- keeping in the South Sudan oil industry.

Research Hypotheses

H 0: Training and development strategies do not have an important impact on records-keeping sustainability of international oil companies in Juba, South Sudan.

H 2: There is no significant impact of employee competencies on record-keeping system sustainability of the international oil companies in Juba South Sudan.

H 0: There is no notable influence of training and development strategies on the competencies of employees in the oil companies operating internationally in Juba, South Sudan.

H 0 4: Employee competencies do not have a significant mediating role between training and development strategies and sustainability of records-keeping systems in international oil companies in Juba, South Sudan.

H 0: Institutional capacity, regulatory framework and technological infrastructure are not significant mediums through which the interaction between training and development strategies and the sustainability of records-keeping systems in international oil companies in Juba, South Sudan is moderated.

Conceptual Framework

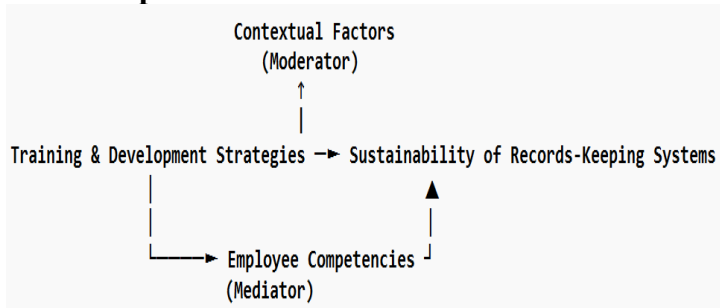


Fig. 1: Training and Development-Driven Records Sustainability Framework

In the conceptual framework, the direct correlation between training and development strategies and sustainability of records-keeping systems (H 1) is shown in Arrow 1 and is based on the assumptions that a structured training improves system utilization, regulatory compliance, and operational continuity. The arrow 2 indicates that training and development causes a positive change in the competencies of employees (H3) as it is in line with Human Capital Theory which argues that the key to workforce effectiveness is the acquisition of skills and knowledge. The impact of these improved competencies on the sustainability of records keeping (H 2) is captured in Arrow 3 and this is based on the Resource-Based View that human

capital is a valuable, rare, and inimitable organizational asset.

The mediation route (H 4) holds that employee competencies act as an indirect process by which training and development indirectly contribute to records-keeping sustainability, which implies that training has its direct impact on the creation of workforce capabilities. Lastly, the moderation path (H5) states that the relationship between training strategies and system sustainability is moderated by contextual and organizational factors, including the strength of regulatory frameworks, the availability of technological infrastructure, the degree of institutional capacity, and so on. This explains the special nature of the operational environment in the oil business in South Sudan, the external and internal contingencies determine the productivity of human capital investments.

Literature Review

Nature and Scope of Training and Development Strategies that the international oil companies have adopted in Juba.

Organization training and development is the key to increase workforce capacity, improve performance, and make the organizational system sustainable. The authors Ahmad, Farrukh, and Nazir (2015) highlight that the performance of employees can be improved substantially through well-organized capacity-building programs, such as workshops, mentorship, and training based on skills. In this line also, Armstrong (2009) pinpoints training programs, induction, and the continuous professional development as key HR practices in the sphere of knowledge-intensive. Experiencing the oil and gas sector, Jacobs (2018) mentions that today companies resort more to digital platforms and AI-based technology, which presupposes continuous training of employees to cope with complicated management systems. Training programs in post-conflict countries such as South Sudan usually have limited resources to work because of the lack of institutional capacity, infrastructure, and shortages of skilled people

(Joseph, 2015). These facts indicate that the quality and breadth of training strategies in Juba can be expected to be affected by contextual issues peculiar to the South Sudanese oil industry.

Sustainability of Records-Keeping Systems in International Oil Companies that Operate in Juba.

Records-keeping systems sustainability is associated with long-term access, compliance, data integrity, and continuity in the organization functioning (Transinformação, 2025). According to Abraham, Schneider and vom Brocke (2019), sustainable records systems are based on efficient data governance frameworks that promote accountability, standardization, and risk mitigation. According to Kodisang (2025), sustainability in technical and vocational institutions is not solely based on technology but also on well-trained personnel who are able to handle records during their entire lifecycle. Waqar et al. (2023) employ AI and digital transformation as tools to enhance the accuracy of the records and the stability of the system in the oil sector but note that continuous capacity-building of the staff is necessary. In South Sudan, the institutional vulnerability of organizations after the conflict, regulatory inability, and the lack of local skills are the obstacles to the stable utilization and maintenance of records systems (Ufua et al., 2021), which means that combined human and technological solutions should be adopted.

Correlations Between Training and Development Strategies and Records-Keeping Systems Sustainability in International Oil Companies in Juba.

Theoretical proofs of the association between records system sustainability and training are strong on Human Capital Theory and the RBV. Employees who are well trained are an inimitable and valuable resource that makes systems more reliable and competitive to the organization (Barney, 1991; Wright, Dunford, and Snell, 2001). Empirically, it has been indicated that training programs impact positively on the organisational

performance, and the implementation of sustainable practices (Sila, 2014; Tien Thanh & Thu Ha, 2024). The article by Ahmed et al. (2025) also illustrates the role of employee engagement as a mediator between training and performance results, which poses a route through which growth strategies could have an indirect influence on the sustainability of the system. The situation with the oil industry is no exception because regular training helps employees to comprehend the concept of data retention and data security and the operation of digital systems, which facilitates sustainable records-keeping (Chen et al., 2025; Jacobs, 2018).

Degree to which Employee Competencies Moderate the Relationship between Training and development Strategies and Records-Keeping System Sustainability.

The skills, knowledge and expertise that constitute employee competencies are very essential mediators that combine training and sustainable organizational results. Human Capital Theory presupposes that investing in human capital development improves its level of knowledge and capabilities, which subsequently contribute to the better performance of an organisation (Ahmad et al., 2015; Akintayo, 2012). Scherbaum, Naidoo, and Saunderson (2022) verify that performance can be improved through specific managerial training, which adds better competencies, and the mediation role is indicated. In records management, data governance, digital literacy, and regulatory compliance skills guarantee that the training investments can result in the long-term system use (Transinformação, 2025). Mediating skills will be necessary in the oil industry complex operations and regulatory requirements in Juba to transform training into practical and sustainable record management results (Kodisang, 2025; Ufua et al., 2021).

Organizational and Contextual predictors of the Effectiveness of Training and Development strategies in Sustainable Records-Keeping in the South Sudan.

The effectiveness of training programs depends on organizational and contextual issues, including institutional capacity, technological infrastructure, regulatory environment, and organizational culture that are moderated (Aypay et al., 2026; Savaş, 2026). The research in knowledge-intensive sectors demonstrates that despite a well-designed training program, the intended results cannot be reached without supportive structures and resources (Bashir, Alfalih, and Pradhan, 2022; Pallanich, 2024). The issues faced in the South Sudan oil industry are scattered professional experience, weak regulatory environments, inadequate infrastructural systems, and post-war operational risks (Joseph, 2015; Ufua et al., 2021). As a result, the effects of training and development on the employee competencies and the sustainability of the records-keeping systems can be either facilitated or limited by these aspects pointing at the necessity of context-specific interventions.

Methodology

The present study adopted a descriptive-exploratory research design to understand how the records-keeping systems in four international oil companies in Juba, South Sudan, are affected by training and development strategies in terms of sustainability. The descriptive component was used to understand the extent of training programs and the existing records system status whereas the explanatory component was the one to test the relationship between training, employee capability, situation factors and system sustainability. The group of records-related staff (administrative personnel, records officers, IT staff, and managers) was the target population (312 records). A stratified random sample consisting of 175 respondents was chosen to represent the proportion of the respondents in the various roles (see Table 1) using Yamane (1967) formula (95 percent confidence level, 5 percent margin of error).

Table 1: Population and Sample Size of Employees in International Oil Companies in Juba, South Sudan

Employee Category	Population (N)	Sample Size (n)	Percentage of Total Population (%)
Administrative Staff	98	55	31.4
Records Officers	72	40	22.9
IT Staff	68	38	21.7
Department Managers	74	42	24.0
Total	312	175	100

The structured questionnaire consisted of four sections that were used to collect data on training and development strategies, employee competencies, records-keeping sustainability and organizational/contextual factors on a 5-point Likert scale. The instrument had good internal consistency (Cronbachs alpha over 0.70; Cronbach, 1...). Data was analyzed using SPSS: descriptive statistics were used to summarize the important variables; Pearson correlation and multiple regression were used to determine the direct effects; and Hayes PROCESS Macro was used to determine the mediation (employee competencies) and moderation (contextual factors) at $p \leq 0.05$. Informed consent, voluntary participation and anonymity of the respondents were insured by ethical protocols.

Results

Table 2: Participation in Training Strategies

Training Strategy	Frequency (n)	% of Respondents
Workshops	60	34.3%
On-the-job Training	45	25.7%
Mentoring	30	17.1%
Digital Training	25	14.3%
Induction Programs	15	8.6%

Note. N = 175. Frequency and percentage of employees participating in various training and development strategies across international oil companies in Juba, South Sudan

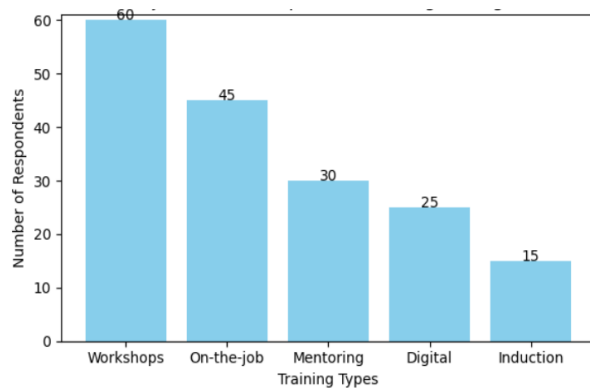


Fig. 2: Participation in Training Strategies

The most frequent participants were the workshop (60 respondents), and then on-the-job training (45). Digital training, induction programs and mentoring had less engagement. It means that, traditional face-to-face training is more prevalent and digital training and mentoring are not sufficiently used in the oil industry in Juba.

Table 3: Sustainability of Records-Keeping Systems

Sustainability Indicator	Mean Score (1–5)	SD	Interpretation
Compliance	4.2	0.63	High sustainability
Accessibility	4.0	0.71	Strong record access
Continuity	3.5	0.82	Moderate system continuity
Data Integrity	3.7	0.77	Moderate data quality

Note. Scores based on a 5-point Likert scale (1 = very low, 5 = very high), with higher values indicating greater sustainability of records-keeping systems.

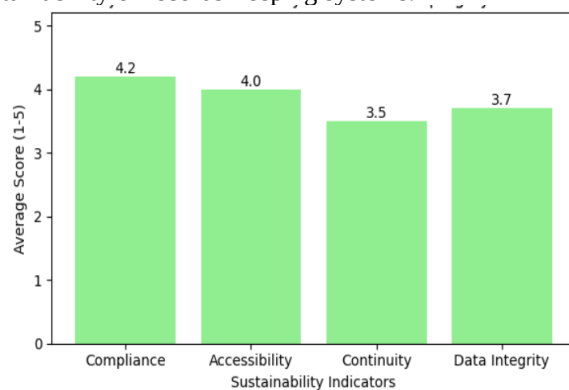


Fig. 3: Sustainability of Records-Keeping Systems

Descriptive analysis has shown that compliance (mean = 4.2) and accessibility (mean = 4.0) were the best dimensions of records-keeping sustainability, so it can be concluded that international oil companies in Juba fulfill the requirements of the regulator mainly and have usable records. Nevertheless, continuity (mean = 3.5) and data integrity (mean = 3.7) were considerably lower and this is indicative of ongoing weaknesses in long-term system resilience and data quality consistency. These results indicate that there is an imbalance in sustainability, in that procedural compliance and short-term access are given precedence over long term reliability and record accuracy.

Table 4: Relationship Between Training Effectiveness and Records-Keeping Sustainability

Training Level	Mean Sustainability Score (1–5)	Interpretation	Hypothesis
Low	3.2	Low sustainability	H ₁
Moderate	3.8	Moderate sustainability	H ₁
High	4.5	High sustainability	H ₁

Note. Higher training effectiveness is significantly associated with higher records-keeping sustainability scores, supporting Hypothesis 1 (H₁).

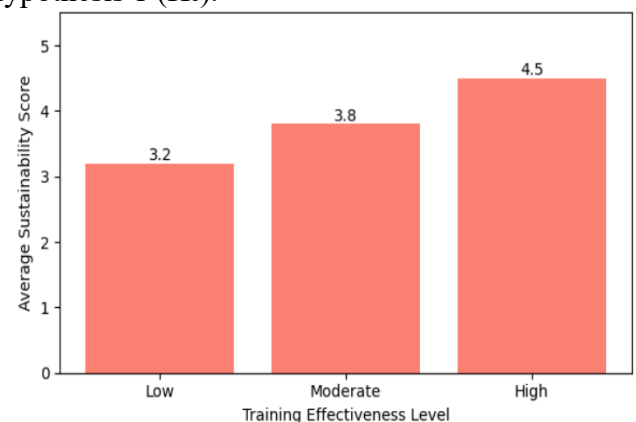


Fig. 4: Relationship Between Training Effectiveness and Records-Keeping Sustainability

There was a close positive relationship between training and development initiatives effectiveness and records-keeping systems sustainability. Organizations with high training effectiveness (mean score 4.0 or more on a 5-point Likert scale) were significantly more likely to score higher on the sustainability scale (mean = 4.5), but those with low training effectiveness were significantly lower in terms of sustainability results. The empirical validation of the Hypothesis 1 (H 1) that strong staff development is a key enabler of sustainable records management in international oil firms in Juba is given by this close relation.

Table 5: Employee Competencies and Records-Keeping Sustainability

Competency Level	Mean Sustainability Score (1–5)	Interpretation	Hypothesis
Low	3.1	Low competency → low sustainability	H ₄
Moderate	3.9	Moderate competency → moderate sustainability	H ₄
High	4.6	High competency → high sustainability	H ₄

Note. Employee competencies significantly mediate the relationship between training effectiveness and records-keeping sustainability, supporting Hypothesis 4 (H₄)

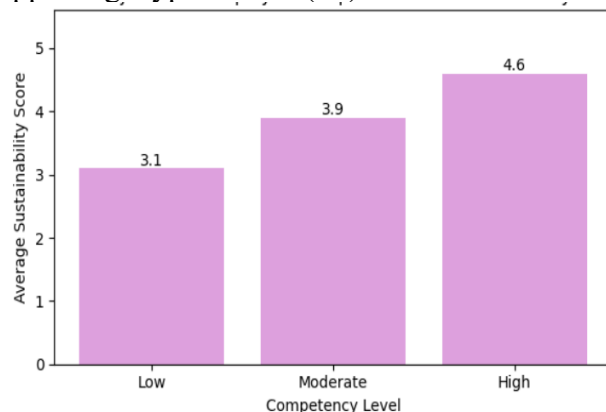


Fig. 5: Employee Competencies and Records-Keeping Sustainability

It was found that there existed a strong positive correlation between the level of competencies of the employees and the sustainability of records keeping: highly competent employees rated the sustainability at 4.6 (on a 5-point Likert scale), significantly lower scores were reported by less-competent employees. The trend offers support to Hypothesis 4 (H 4), which validates that employee competencies, including data governance knowledge, digital literacy, and adherence to procedures, are the mediator between training and system sustainability. Importantly, the observation highlights the fact that investments made in training have a long-term effect and can only be realized when properly converted to implemented workforce capabilities.

Table 6: Contextual Factors Influencing Sustainability

Factor	Mean Impact Score (1–5)	Interpretation	Hypothesis
Technological Infrastructure	4.3	Strong moderator of training impact	H ₅
Regulatory Support	3.8	Moderate influence	H ₅
Institutional Capacity	4.0	Significant moderating effect	H ₅
Organizational Culture	3.7	Moderate influence	H ₅

Note. Higher scores indicate a stronger moderating influence of the factor on the relationship between training effectiveness and records-keeping sustainability.

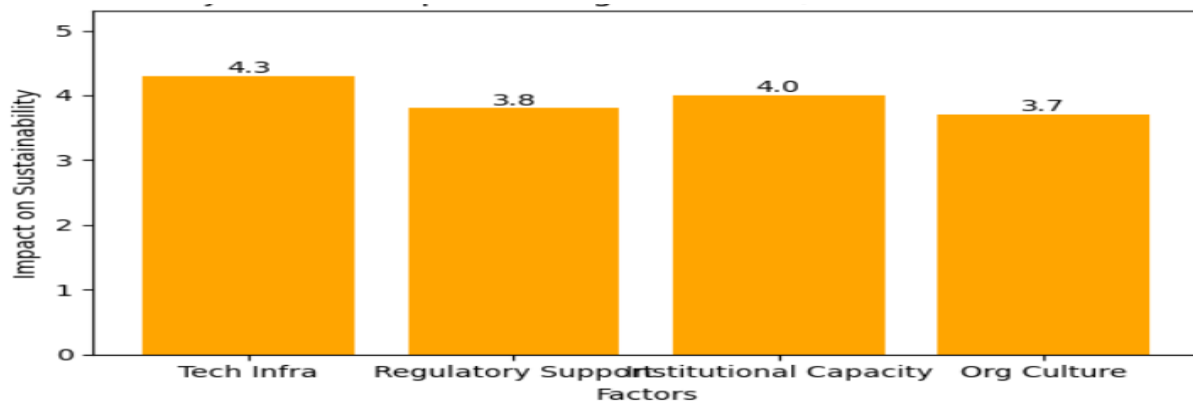


Fig 6: Impact of Contextual Factors

In line with Hypothesis 5 (H 5), organizational and contextual conditions to a large extent moderate the association between training and records-keeping sustainability. Technological infrastructure had the greatest impact among the moderators (mean = 4.3), then institutional capacity (4.0), regulatory support (3.8) and organizational culture (3.7).

These findings suggest that even the best training programs are more efficient in a setting with a strong digital infrastructure, functioning institutions, articulated regulatory structures and positive work norms- revealing the contingency of human capital investments in weak operational settings such as the South Sudan oil industry.

Table 7: Summary of Key Results Across Study Objectives

Objective	Variable / Indicator	Mean Score / Frequency	Interpretation	Hypothesis
1	Workshops	60 respondents	Most commonly used training strategy	–
1	On-the-job training	45 respondents	Frequently used, but less than workshops	–
1	Mentoring	30 respondents	Underutilized training strategy	–
1	Digital training	25 respondents	Low adoption	–
1	Induction programs	15 respondents	Least adopted strategy	–
2	Compliance	4.2 (Likert 1–5)	High sustainability in compliance	–
2	Accessibility	4.0	Strong record accessibility	–
2	Continuity	3.5	Moderate long-term system continuity	–
2	Data Integrity	3.7	Moderate data quality	–
3	Training Level – Low	3.2	Low training corresponds with low sustainability	H ₁
3	Training Level – Moderate	3.8	Moderate sustainability	H ₁
3	Training Level – High	4.5	High sustainability	H ₁
4	Competency Level – Low	3.1	Low competency → low sustainability	H ₄
4	Competency Level – Moderate	3.9	Moderate competency → moderate sustainability	H ₄
4	Competency Level – High	4.6	High competency → high sustainability	H ₄
5	Technological Infrastructure	4.3	Strong moderator of training-sustainability link	H ₅

5	Regulatory Support	3.8	Moderate influence	H ₅
5	Institutional Capacity	4.0	Significant moderating effect	H ₅
5	Organizational Culture	3.7	Moderate influence on sustainability	H ₅

Note. N = 175. The information was gathered among the employees of the international oil companies in Juba, South Sudan. Objective 1 is based on frequencies of training and development strategies, Objectives 2–5 are based on mean scores in 5-point Likert scale (1 = very low, 5 = very high)

representing records-keeping sustainability, employee competencies, and contextual influence. H 1 -H 5 represent the hypothesized tests of direct, mediating and moderating relationships between these constructs.

Table 8: Summary of Results Across Research Objectives and Hypotheses

Objective	Variable / Indicator	N	Mean (1–5) / Frequency	SD	Interpretation	Hypothesis
1	Workshops	175	60	–	Most frequently used training strategy	–
1	On-the-job Training	175	45	–	Frequently used, but less than workshops	–
1	Mentoring	175	30	–	Underutilized training strategy	–
1	Digital Training	175	25	–	Low adoption	–
1	Induction Programs	175	15	–	Least adopted strategy	–
2	Compliance	175	4.2	0.63	High sustainability in compliance	–
2	Accessibility	175	4.0	0.71	Strong record accessibility	–
2	Continuity	175	3.5	0.82	Moderate long-term system continuity	–
2	Data Integrity	175	3.7	0.77	Moderate data quality	–
3	Training Level – Low	175	3.2	0.65	Low training → low sustainability	H ₁
3	Training Level – Moderate	175	3.8	0.58	Moderate training → moderate sustainability	H ₁
3	Training Level – High	175	4.5	0.51	High training → high sustainability	H ₁
4	Competency Level – Low	175	3.1	0.69	Low competency → low sustainability	H ₄
4	Competency Level – Moderate	175	3.9	0.57	Moderate competency → moderate sustainability	H ₄
4	Competency Level – High	175	4.6	0.49	High competency → high sustainability	H ₄
5	Technological Infrastructure	175	4.3	0.52	Strong moderator of training–sustainability	H ₅

5	Regulatory Support	175	3.8	0.60	Moderate influence	H ₅
5	Institutional Capacity	175	4.0	0.55	Significant moderating effect	H ₅
5	Organizational Culture	175	3.7	0.61	Moderate influence	H ₅

Notes. N = 175 (employees across four international oil companies in Juba, South Sudan). Mean scores for Objectives 2–5 are based on a 5-point Likert scale (1 = very low, 5 = very high); Objective 1 reports frequencies. H₁–H₅ denote hypotheses corresponding to each tested relationship.

Discussion

This paper has shown that the training and development strategies are important to the sustainability of records-keeping systems within the international oil companies in Juba both directly and indirectly via employee competencies, with the organizational and contextual conditions, especially technological infrastructure, organizational capacity, and regulatory support, being important moderators. Most common were workshops and on-the-job training, and the usage of digital and mentoring is still underutilized. More importantly, sustainability outcomes were largely forecasted by the high level of employee competency, indicating that training only affects records management when properly converted into applied skills. The results are consistent with Human Capital Theory and the Resource-Based View and indicate that sustainable records systems rely on the presence of human capital, as well as the facilitation of organizational resources. In the case of South Sudan oil industry, the findings imply combined investments in diversified learning, workforce development, and accommodating institutional and technological systems to provide long-term records sustainability.

Conclusion

This research ascertains that training and development programs have great impact on the sustainability of records-keeping systems of the

international oil companies in Juba, South Sudan. It is not that simple a relationship that competencies in employees influence the relationship directly, with organizational and contextual factors (especially technological infrastructure, institutional capacity and regulatory support) moderating the strength of that relationship. These results are empirical evidence of fundamental principles of Human Capital Theory and Resource-Based View, which prove that the key to sustainable records management in weak, resource-reliant environments is not only talented human resources but also supportive systemic factors. Even the enhanced records systems may work subpar or be destroyed without the complementary investment in human and organizational capital.

Recommendations

- 1) Expand training modes further than the traditional workshops to incorporate digital learning platforms, on-the-job coaching and formal mentoring programs.
- 2) Establish an ongoing competency building process in information control, virtual literacy and records management cycle among all employees working with operational records.
- 3) Enhance the technological infrastructure (e.g., the secure cloud repositories, AI-assisted classification) and the institutional capacity-building by collaborating with the local training institutions and the international regulatory authorities.
- 4) Compliance Improve the records management practices by aligning them to the national and international compliance frameworks to increase accountability and minimize operational risk.

References

- 1) Abraham, R., Schneider, J., & vom Brocke, J. (2019). Data governance: A conceptual framework, structured review, and research agenda. *International Journal of Information Management*, 49, 424–438. <https://doi.org/10.1016/j.ijinfomgt.2019.07.008>
- 2) Ahmad, T., Farrukh, F., & Nazir, S. (2015). Capacity building boost employees' performance. *Industrial and Commercial Training*, 47(2), 61–66. <https://doi.org/10.1108/ICT-04-2014-0024>
- 3) Ahmed, S., Ashrafi, D. M., Ahmed, R., Ahmed, E., & Azim, M. (2025). How employee engagement mediates the training and development and work-life balance towards job performance of the private banks? *The TQM Journal*, 37(7), 2015–2040. <https://doi.org/10.1108/TQM-10-2023-0316>
- 4) Akintayo, D. I. (2012). Human capital formation programmes and organizational commitment among industrial workers in South-West Nigeria. *International Journal of Human Resource Studies*, 2(4), 33–44.
- 5) Armstrong, M. (2009). *Armstrong's handbook of human resource management practice* (11th ed.). Kogan Page.
- 6) Aypay, A., Çakır, Ç., Özkan, M., & Bellibaş, M. Ş. (2026). Is distributed leadership key to a just and collaborative school culture? A mediation analysis. *International Journal of Educational Management*. Advance online publication. <https://doi.org/10.1108/IJEM-08-2025-0660>
- 7) Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- 8) Bashir, M., Alfalih, A., & Pradhan, S. (2022). Sustainable business model innovation: Scale development, validation and proof of performance. *Journal of Innovation & Knowledge*, 7(4), 100243. <https://doi.org/10.1016/j.jik.2022.100243>
- 9) Boxall, P. F. (1996). The strategic HRM debate and the resource-based view of the firm. *Human Resource Management Journal*, 6(3), 59–75.
- 10) Chen, F., Sun, L., Jiang, B., Huo, X., Pan, X., Feng, C., & Zhang, Z. (2025). A review of AI applications in unconventional oil and gas exploration and development. *Energies*, 18(2), 391. <https://doi.org/10.3390/en18020391>
- 11) Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–334.
- 12) Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). Guilford Press.
- 13) IMF. (2024). South Sudan: 2024 Article IV consultation (IMF Country Report No. 24/112). International Monetary Fund. <https://www.imf.org/en/Publications/CR/Issues/2024/04/15/South-Sudan-2024-Article-IV-Consultation-544531>
- 14) International Labour Organization. (2016). *Decent work and the 2030 Agenda for Sustainable Development*. ILO. <https://www.ilo.org/global/topics/sdg-2030/lang--en/index.htm>
- 15) International Labour Organization. (2020). *Decent work country profile: South Sudan*. ILO. <https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/107055/131488/F1973312183/SSD107055.pdf>
- 16) Jacobs, T. (2018). Shell picks a digital platform to build its AI future upon. *Journal of Petroleum Technology*, 70(4), 43–44. <https://doi.org/10.2118/0418-0043-JPT>
- 17) Joseph, O. B. (2015). An assessment of the training and developmental needs of employees in Nigerian local government. *Review of Public Administration and Management*, 3(1), 1–6. <https://doi.org/10.4172/2315-7844.1000145>

- 18) Kaur, R., & Randhawa, G. (2024). How to ameliorate employee engagement among government school teachers? Empirical evidence. *International Journal of Educational Management*, 38(6), 1630–1648. <https://doi.org/10.1108/IJEM-09-2023-0484>
- 19) Kodisang, M. E. (2025). Implementation of records management practices in technical and vocational education and training institutions in South Africa (Master's thesis, University of Cape Town). <https://hdl.handle.net/11427/42079>
- 20) Lado, L. (2022). Oil, conflict, and state fragility in South Sudan. *Journal of Eastern African Studies*, 16(1), 112–130. <https://doi.org/10.1080/17531055.2021.2021654>
- 21) Montecinos, C., Allende, C., Valenzuela, J. P., Vanni, X., & Kuzmanic, D. (2026). Chilean principals' intention to leave their school: A job demand and resource analysis. *Journal of Educational Administration*. Advance online publication. <https://doi.org/10.1108/JEA-02-2025-0069>
- 22) Natural Resource Governance Institute (NRGI). (2022). South Sudan oil sector governance assessment. <https://resourcegovernance.org/publication/south-sudan-oil-sector-governance-assessment>
- 23) Namasivayam, K., & Denizci, B. (2006). Human capital in service organizations. *Journal of Intellectual Capital*, 7(3), 381–393. <https://doi.org/10.1108/14691930610681465>
- 24) OECD. (2001). Sustainable development: Critical issues. OECD Publishing. <https://doi.org/10.1787/9789264196224-en>
- 25) Ogunbodede, N. (2016). In-service training and job satisfaction in the Nigerian public service: A theoretical analysis. *International Journal of Academic Research in Business and Social Sciences*, 6(5), 141–151.
- 26) Pallanich, J. (2024). Unsung hero: Artificial lift boosts production without breaking the bank. *Journal of Petroleum Technology*, 76(2), 30–40. <https://doi.org/10.2118/0224-0030-JPT>
- 27) Pinaud, C. (2021). Skills and employment in South Sudan: Challenges for inclusive growth. International Labour Organization. https://www.ilo.org/global/publications/books/WCMS_750221/lang--en/index.htm
- 28) Savaş, G. (2026). Between rules and realities: Challenges and strategies of deputy principals in managing school discipline in a centralized system. *International Journal of Educational Management*. Advance online publication. <https://doi.org/10.1108/IJEM-09-2025-0779>
- 29) Scherbaum, C. A., Naidoo, L. J., & Saunderson, R. (2022). The impact of manager recognition training on performance: A quasi-experimental field study. *Leadership & Organization Development Journal*, 43(1), 57–70. <https://doi.org/10.1108/LODJ-04-2021-0144>
- 30) Sila, A. K. (2014). Relationship between training and performance: A case study of Kenya Women Finance Trust. *European Journal of Business and Social Sciences*, 3(1), 95–117.
- 31) Tien Thanh, P., & Thu Ha, N. (2024). Linking training and development to employees' attitudes and behaviors: The mediating role of engagement. *European Journal of Training and Development*, 48(3/4), 357–374. <https://doi.org/10.1108/EJTD-10-2022-0105>
- 32) Transinformação. (2025). Records management and knowledge management: A strategic connection for organizational development. *Transinformação*, 37, e14934. <https://doi.org/10.1590/2318-0889202537e14934>
- 33) Ufua, D. E., Emielu, E. T., Olujobi, O. J., Lakhani, F., Borishade, T. T., Ibidunni, A. S., & Osabuohien, E. S. (2021). Digital transformation: A conceptual framing for attaining sustainable development goals 4 and 9 in Nigeria. *Journal of Management & Organization*, 27(5), 836–849. <https://doi.org/10.1017/jmo.2021.45>

- 34) United Nations Environment Programme (UNEP). (2020). Environmental compliance and reporting in the oil sector: Guidelines for operators in fragile states. UNEP. <https://www.unep.org/resources/report/environmental-compliance-reporting-oil-sector>
- 35) Waqar, A., Othman, I., Shafiq, N., & Mansoor, M. S. (2023). Applications of AI in oil and gas projects towards sustainable development: A systematic literature review. *Artificial Intelligence Review*, 56(Suppl 1), 12771–12798. <https://doi.org/10.1007/s10462-023-10441-3>
- 36) World Bank. (2023). South Sudan economic update, October 2023: Navigating economic volatility. World Bank Group. <https://www.worldbank.org/en/country/southsudan/publication/south-sudan-economic-update-october-2023>
- 37) Wright, P. M., Dunford, B. B., & Snell, S. A. (2001). Human resources and the resource-based view of the firm. *Journal of Management*, 27(6), 701–721.
- 38) Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.). Harper & Row.
- 39) Yusoff, A. (2025). Pracademic transitions: Identity formation and institutional belonging among second-career academics. *International Journal of Educational Management*. Advance online publication. <https://doi.org/10.1108/IJEM-03-2025-022>