Change management practices and organizational performance outcomes of electronic records systems: Evidence from petroleum companies in South Sudan

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Abstract
Integration of Electronic Records Systems (ERS) in petroleum organizations also relies on proper change management, especially in dynamic and resource limited scenarios such as that of the South Sudan. The research was done to evaluate the effect of change management practice on the ERS-based organizational performance outcomes in the South Sudan petroleum industry. Quantitative research design was used in the study, which involved a survey questionnaire applied to 178 employees in five petroleum organizations in Upper Nile, Unity/Ruweng, and Jonglei States on change management practices in ERS integration in petroleum industry in South Sudan based on the Change Management Theory and Technology developed by Lewin, and the Organization, Technology, and Environment (TOE) theory. The multiple regression indicated that 43-percent variance of the organizational performance outcomes in the petroleum industry in South Sudan is significantly explained by the practices of change management (R 2 = 0.43, F = 44.33, p = less than 0.001). In the petroleum industry of South Sudan, leadership commitment (= 0.38, p = 0.001) was the most significant factor in change management, after which was staff training (= 0.24, p = 0.003) and communication (= 0.21, p = 0.012). The performance of ERS, Employee involvement, although positively correlated (= 0.14), was not statistically significant (= 0.089), indicating that opportunities to be involved in the existing strategies of implementation are very limited. Conclusion: The paper concludes that change can only be unlocked through leadership-based, capacity-building and communicative approaches to change in fragile contexts to unlock the potential of ERS. The results of the present research can be viewed as helpful recommendations to those managers and policymakers who are interested in improving the digital record management and operation in post-conflict and developing nations.

Keywords: Change Management, Organizational Performance, Electronic Records Systems, Petroleum, South Sudan

Introduction
Records management has been seen to be a strategic requirement that has to be carried out digitally in every industry where information is a significant aspect particularly in the petroleum industry. The Electronic Records Systems (ERS) boast of numerous merits including an increase in operational efficiency, the ability of the companies

to be compliant and better data-driven decision making (Johnston & Bowen, 2005; Sprehe, 2005). The use of ERS is not only desirable but also necessary in the petroleum industry where record-keeping has a significant role in the aspects of safety, financial transactions transparency, and preserving the environment (Muir et al., 2014; Meidell and Kaarbjoe, 2017).

It should be noted however that adoption of ERS is not only a complicated process of change but also involves organizational culture change, also the change in work processes and governance structures (Di Biagio & Ibiricu, 2008; Gregory, 2005). Besides that, one should also remember that in the South Sudanese context that has recently undergone conflict, chances of changes in infrastructure, digital literacy, and changes in stability becoming a barrier to change process may exist (Asogwa, 2012; Komba, 2013).
Thus, despite the fact that ERS can enhance performance of an organization, it is likely that this potential may not be achieved because of ineffective change management strategies. The South Sudanese petroleum industry has created change management involving good leadership and management of digital changes amidst changing socio-political environments (Alier & Christine, 2023;).

Deng, 2023). Nevertheless, the literature lacks empirical studies that demonstrate change management practices that determine the performance outcomes of ERS systems. Based on this argument and the results of similar settings in the oil and gas industry in Yemen (Hawash et al., 2020), it is the oil marketing companies in Uganda (Luyombya and Bukirwa, 2014) and the government in Southern and Eastern Africa (Katuu, 2015; Ndenje-Sichalwe et al., 2011) that are studied in this research to find out how strategic change management influences the success of ERS systems in South Sudanese petroleum companies. The theoretical frameworks of records management (Yusof and Chell, 2002) and change management leadership (Weber et al., 2022; White et al., 2016) will guide this research because the authors seek to determine the relationship with the highest correlation in terms of improving operational, compliance, and strategic performance outcomes. It is through this knowledge gap that this research will be able to provide insights to policy makers and change management leaders to work and operate in challenging environments. The study would eventually be useful in informing the creation of a more robust digital governance environment in the petroleum sector.

Statement of the Problem

The petroleum industry has been utilizing the efficient utilization of precise, safe, and prompt records in the attainment of functional effectiveness, rule adherence, and strategic choice. Towards this end, the use of Electronic Records Systems (ERS) has been on the increase towards meeting the above demands. Nevertheless, the advantages of ERS performance have not come true, more so to the sensitive economy of South Sudan. Institutional, skill-related, infrastructural, and change-related factors have been cited to be against the application of ERS in this economy (Alier and Christine, 2023; Deng, 2023; Asogwa, 2012). The benefits of ERS are not utilized in the petroleum sector, particularly due to lack of effective leadership, communication, training, and participation of employees, which have been cited as key causes of ERS resistance and non-adoption (Burnes et al., 2018; Battilana et al., 2010). The research niche of ERS in the petroleum industry of vulnerable economies, particularly post-conflict environment, has not been explored as yet, although studies on ERS have been conducted in stable economies (Abdulkadhim et al., 2015; Katuu, 2015). It is interesting that studies utilizing the Technology-Organization-Environment (TOE) framework, as it has been noted by a study by Hawash et al. (2020) in oil/gas industry of Yemen, have determined the success factors of ERS without considering the example of South Sudan. The proposed study aims at bridging the research gap by exploring how change management

practices affect the ERS-based performance in South Sudan petroleum companies.

Objectives of the Study

1) To determine the practices of change management used during the implementation of Electronic Records Systems in petroleum companies in South Sudan.
2) To examine the extent to which Electronic Records Systems are integrated in petroleum companies in South Sudan.
3) To investigate the effect of leadership commitment on the performance outcomes of Electronic Records Systems in petroleum companies in South Sudan.
4) To determine the effect of staff training and capacity building on the performance outcomes of Electronic Records Systems in petroleum companies in South Sudan.
5) To examine the effect of communication and employee involvement on the performance outcomes of Electronic Records Systems in petroleum companies in South Sudan.

Research Questions

1) What change management practices are employed during the integration of Electronic Records Systems among petroleum companies in South Sudan?
2) What is the extent of Electronic Records Systems integration among petroleum companies in South Sudan?
3) What is the role of leadership commitment in organizational performance outcomes of Electronic Records Systems among petroleum companies in South Sudan?
4) What is the role of staff training and capacity building in organizational performance outcomes of Electronic Records Systems among petroleum companies in South Sudan?
5) What is the role of communication and employee involvement in organizational performance outcomes of Electronic Records Systems among petroleum companies in South Sudan?

Hypotheses

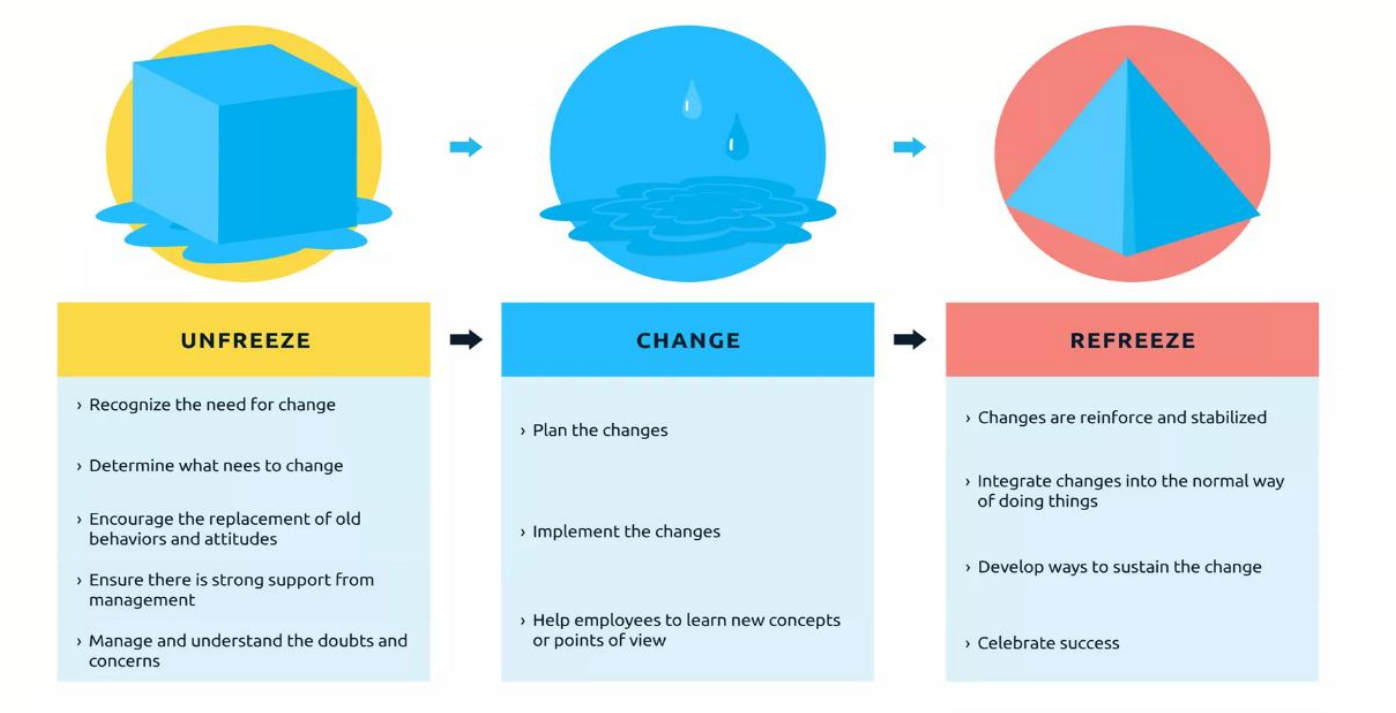
i. H_1: Change management practices positively and significantly impact organizational performance outcomes of Electronic Records Systems.
ii. H_2: Leadership commitment positively impacts organizational performance outcomes of Electronic Records Systems.
iii. H_3: Staff training and capacity building positively impact organizational performance outcomes of Electronic Records Systems.
iv. H_4: Effective communication during ERS integration positively impacts organizational performance outcomes.
v. H_5: Employee involvement in change processes positively impacts organizational performance outcomes of ERS.

Theoretical Framework

The literature was founded on Change Management Theory of Lewin and Technology, Organization, Environment (TOE) model. The theory presented by Lewin presupposes the electronic incorporation. Its conceptualization based on the idea that Records System (ERS) could be implemented in the organization in three steps unfreezing, refreezing, and changing (Burnes et al., 2018; Battilana et al., 2010). This has been supported by several factors. studies conducted in a weak environment where the unfreezing and refreezing processes were observed to have occurred. are faced with severe issues (Alier and Christine, 2023; Deng, 2023). TOE model, in its turn, provides the approach to understanding the external reality inside, in which the ERS adoption is implemented, including the organizational readiness to adopt the technology and. the role of the environment (Hawash et al., 2020). In this model also approach can be provided. making bigger the picture in which the adoption of ERS is taking place, including how ready an entity is to adopt technology and how important is the environment. In the oil and gas market of Yemen, the adoption of ERS can be influenced by the desire

of the organization to adopt. environment and the technology issue. Hawash et al. (2020) found that there were 15 major factors in adoption in these three dimensions of TOE in a developing economy context, thus demonstrating that it can be applicable to South Sudan. The process changes and contextual facilitators and obstacles have backgrounds of knowledge in the theory of Lewin and the TOE theory respectively. The two theories provide a sufficient theoretical and empirical basis on. exploring the consequence of the change management practices on the ERS-based performance in the South Sudan oil industry.

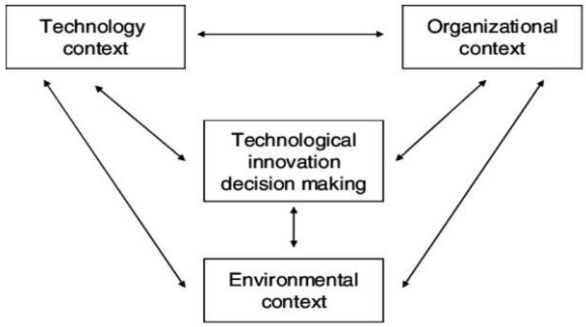
Fig. 1: Lewin's Change Management Theory



Deng, (2023) Digital Leadership. (2023), Source, Alier and Christine, (2023).

A theoretical foundation of the organisational change is Change Management Theory by Lewin that is defined as a three-step process: Unfreeze, Change, and Refreeze (Burnes et al., 2018). Unfreeze step leadership is the need to defeat the status quo by questioning the status quo and creation of an attitude towards change (Battilana et al., 2010). The process process entails change step of implementation of new. Behavioural change, such as Electronic Records Systems, and systems change (Alier and). Christine, 2023). Finally, the Refreeze stage is included in the process that implies institutionalization of the change. as a component of the organisational culture (Deng, 2023). Although the theory was written in the mid-20 th century, and was applied to the digital transformation projects in the complex and underprivileged areas, it seems to be highly applicable to the social psychology. environment of resource poverty because it focuses on the human and behavioural aspects.

Fig. 2: Technology–Organization–Environment (TOE) framework



Arendsen, van Engers, source and Schurink, (2008).

One of the effective models of studying the adoption is the Technology Organization Environment (TOE) model. of Electronic Records Systems (ERS) and their effect on the organisational performance in South Sudan. petroleum industry. The model claims that the consequences of technology are not set unilaterally, However, it is the diversity of three environmental dimensions that contributes to it (Hawash et al., 2020). The technological environment consists of ERS compatibility, usability, and ICT integration capability. infrastructure, which is needed to carry out the implementation successfully in the limited resources setting. (Abdulkadhim et al., 2015). The setting of the organisation, especially in this case. study, is concerned with the methods of change management like leadership engagement, training of employees. user acceptance and system, communication together with employee involvement as significant factors of system acceptance. success (Alier and Christine, 2023; Deng, 2023; Battilana et al., 2010). The environmental factor encompasses the impact of different aspects including regulatory requirements, industry. need is attributed to the standards of accountability, and to the operating environment of South Sudan, among other factors. In the case of electronic records (Asogwa, 2012; Luyombya & Bukirwa, 2014). Everything above is taken together. help prove that ERS outcomes are not always predetermined by technology but by the manner in which the organization is organized, and cope with interaction of technology, management and the environment, which has been clearly reflected in other oil and gas sectors, such as Yemen (Hawash et al., 2020).

Literature Review

ERS Implementation Change Management Practices.

Digital record keeping should be successfully adopted by managing change effectively, systems to migrate organizations out of their former record keeping systems. The use of ERS in the informational-intensive. petroleum industry does not only entail the technical implementation of the. system, it involves human and process interventions (Burnes et al., 2018). The best practice regarding it is to support the ERS implementation with the help of the leadership, strategic communication, participatory design, and capacity development (Battilana et al., 2010; Weber et al., 2022). According to the case of Alier and Christine (2023) state that the implementation of the ERS in South Sudan in the petroleum industry was conducted. is often conducted without the introduction of change management procedures, which makes the user disengaged.

Still on the same note, Di Biagio and Ibiricu (2008) remark that implementation of EDRMS requires inclusion of EDRMS implementation to succeed, which is premised on the integration of the principle of change management. According to Johnston and Bowen (2005), the advantages of ERS such as efficiency and audit ought to be achieved. responsiveness, is a factor, of how far it is being integrated. In the Uganda oil marketing companies of Luyombya and Bukirwa. The (2014) concluded that the partial integration of ERS, i.e. ERS is performed within silos without an effective interaction helps to weaken the accessibility and compliance with information access and other systems. South Sudan has been experiencing challenges and unreliability (poor interoperability) of infrastructural ERS in its capacity to be easily integrated (Asogwa, 2012; Deng, 2023).

According to Ambira (2016), ERS is unbecoming. redundant since the compatibility of ERS with the systems and workflows in institutions is absent. Therefore, the ERS integration is multidimensional and depends on the technological and institutional. support. The ERS adoption is jump started using leadership commitment. In this case, Battilana et al. (2010) can be used. establish executive sponsorship as one of the core competencies within the context of the planned organization. change, especially on complex change. The authors of the Yemeni oil and gas sector, Hawash et al. (2020), discovered that the top management support was the most significant factor in the success of ERMS particularly in terms of resource allocation and

culture legitimization. A survey conducted by Deng (2023) of the The Ministry of Petroleum South Sudanese made sure that this aspect is meaningful by mentioning that its units with active units. Ministerial support had more levels of digital records maturity.

Nevertheless, Kumalo and Scheepers (2021) assert otherwise. observed the potential of stopping digital reforms in the poor countries where weak leadership support structures take place. The user competence and the psychological ownership are the determinants of the ERS utilization. Asogwa (2012) discovers that the lack of skills is an institutional barrier to electronic records management in Sub-Saharan Africa. The digital technologies are not as common to the labour force of the region. Training should be used to overcome this barrier by ensuring there is trust between the users of technology and processes (Kemoni, 2009). Employee involvement is one more factor. White et al. (2016) presuppose that the involvement of the working staff in the change process with the assistance of. collaborative design will allow minimising change resistance and increase responsibility. This is seen in the ERS case study provided by Gregory (2005) in which end-user pilot testing was carried out in an effort to make the ERS look more relevant. The South Sudan where the workforce is more susceptible to the case is considered. The case of change fatigue requires the involvement of employees (Alier and Christine, 2023). Finally, ERS has to introduce an increase in the performance of the organization. According to Sprehe (2005), the benefits of a well-maintained ERS are cost-saving, time should take less to access, and legal compliance. Muir et al. (2014) mention that records integrity is vital in the high-risk industry such as oil and gas.

However, these results are controlled by the quality of change, in that, poorly managed change. implementation generates low performing systems with minimal impacts (Ngoepe, 2016). On the contrary, where ERS improves operational transparency, institutional strength and decision making when the change management practice such as leadership, training and communication is healthy (Kumalo & Scheepers,). 2021; Meidell & Kaarbøe, 2017). The TOE model confirms this relationship in which performance is not. the result of technology and interaction of technology and its facilitators in environment.

Methodology

The research involved a quantitative survey (Cross-sectional survey) of staff working in petroleum companies in South Sudan in direct contact with Electronic Records Systems (ERS), i.e., Top Management, Middle Management, and Operational/Records Staff in records management, ICT, and administrative operations on a cross-sectional study and that were considered as the important stakeholders of ERS (Luyombya, 2014). To ensure that the regional differences in ERS usage and performance are taken care of, a proportional stratified random sampling method was used where the strata were applied in terms of management cadres, departmental affiliation, and the geographic operational block (Blocks 1, 2, 3 and 5). The formula by Yamane was used to determine the sample size since there were 320 employees and the sample size was taken as 178. The questionnaire was a structured self-administered questionnaire, which contained four constructs including change management practices (leadership commitment, communication, training, employee involvement), (2) ERS integration, (3) organizational performance outcomes, and (4) demographic variables measured through a 5-point Likert scale.

It was shown that the questionnaire is validated through expert validation and pilot test (n = 30) and that Cronbachs alpha is greater than 0.70 on all scales, which means that the reliability is acceptable. The institutional review board gave the ethical clearance and informed consent was taken by all the participants. The collection of data was conducted on an electronic basis, in a confidential and voluntary manner. The SPSS v.28 was used in data analysis, with descriptive statistics and multiple regression analysis to provide evidence of the relationship between change management

practices and the performance results of the organization. This method is in line with other literature on ERMS implementation in similar oil and gas industry in weak resource environments (Hawash et al., 2020).

Table 1: Population of South Sudanese Petroleum Companies and Operational Regions

Petroleum Company / Consortium	Type	Operational Areas / Blocks	Notes / Role in ERS Study
Dar Petroleum Operating Company (DPOC)	Major Joint Venture	Blocks 3E & 7 (Upper Nile State – Paloch, Moleeta, Adar, Gassab)	Largest oil producer; key ERS users across management and operational staff
Greater Pioneer Operating Company (GPOC)	Joint Venture	Blocks 1, 2 & 4 (Unity State / Ruweng Area)	Successor to GNPOC; ERS adoption across management levels
Sudd Petroleum Operating Company (SPOC)	Joint Venture	Block 5A (Unity State – Tharjath, Mala, related fields)	Production largely dormant; ERS involvement in records and reporting
Nile Petroleum Corporation (Nilepet)	National Oil Co.	Participates across all JV blocks	Partner in all consortia; provides local workforce and oversight
Wildcat Petroleum	Upstream Petroleum	Emerging involvement (Jonglei, Unity)	Smaller operator; staff interact with ERS and reporting systems

Source: Deng, (2023)

The cadres/departments considered for stratified sampling were Top Management, Middle Management, and Operational/Records Staff. The number of employees in each company and department were considered to determine the proportionate sample size required for the survey. The operational areas (blocks/regions) were also considered to determine the geographic representation in ERS adoption and performance outcomes.

Table 2: Sample Size Distribution by Company, Region, and Employee Cadre

Petroleum Company / Consortium	Operational Region / Block	Employee Cadre	Population (N)	Sample (n)
Dar Petroleum Operating Company (DPOC)	Blocks 3E & 7 (Upper Nile State – Paloch, Moleeta, Adar, Gassab)	Top Management	25	14
		Middle Management	40	23
		Operational / Records Staff	60	34
Greater Pioneer Operating Company (GPOC)	Blocks 1, 2 & 4 (Unity State / Ruweng Area)	Top Management	20	11
		Middle Management	35	20
		Operational / Records Staff	50	28
Sudd Petroleum Operating Company (SPOC)	Block 5A (Unity State – Tharjath, Mala, related fields)	Top Management	15	8
		Middle Management	25	14
		Operational / Records Staff	30	17
Wildcat Petroleum	Jonglei / Unity	Top Management	5	3
		Middle Management	10	6
		Operational / Records Staff	15	9

Total	—	—	**310**	**178**

Source: Deng, (2023)

Although Nile Petroleum Corporation (Nilepet) is a stakeholder in all the joint venture operations, it was not considered a separate sampling unit since the personnel of Nile Petroleum Corporation were already included within the operational structures of the joint venture companies and therefore fell under the respective strata of DPOC, GPOC, and SPOC.

Findings

Demographic Characteristics of the respondents.

A total of 178 valid questionnaires were obtained and this is a good response rate to an organizational survey research. These respondents were top management (18.5%), middle management (36.0%), and operational/records personnel (45.5) of the five petroleum companies in the major oil fields in South Sudan, i.e. the Upper Nile, Unity/Ruweng and Jonglei. The stratified sampling was accomplished in order to make the results representative of the personnel that were directly involved in the process of using ERS and implementing the change.

Table 3: Respondents' Demographic Characteristics

Category / Variable	Frequency (n = 178)	Percentage (%)
Employee Cadre		
Top Management	33	18.5
Middle Management	64	36.0
Operational / Records Staff	81	45.5
Operational Region		
Upper Nile	—	—
Unity / Ruweng	—	—
Jonglei	—	—
Total	178	100.0

Respondents were sampled from five petroleum companies in the major hydrocarbon-producing areas of South Sudan: Upper Nile, Unity/Ruweng, and Jonglei. Stratified sampling was employed to have proportional representation of top management, middle management, and operational/records staff who were directly involved in the usage of Electronic Records Systems and change implementation.

Descriptive Analysis of Change Management Practices.

The findings of the descriptive statistics contained that the implementation of change management practices among the petroleum firms in South Sudan was moderate to high. The mean of the leadership commitment was the highest (M = 4.12), which showed the existence of visible support in the ERS integration process. Conversely, communication scored moderately on the mean (M = 3.85) and this means that information sharing related to the integration of ERS was done, albeit on an irregular basis. Staff training scored an average mean (M = 3.62), which suggests that the companies made periodical attempts at capacity building. The lowest mean was noticed when employee involvement was measured (M = 3.28), which means that the staff members were not much involved when it comes to ERS decision-making. Thus, it can be summed that despite the presence of change management structures, the depth of these structures can be considered problematic.

Table 4: Descriptive Statistics of Change Management Practices

Change Managemen Practice	Mean (M	Interpretation
Leadership Commitme	4.12	High
Communication	3.85	Moderately High
Staff Training	3.62	Moderate
Employee Involvement	3.28	Low–Moderate
Overall Average	**3.72**	Moderately High

Likert scale is used to measure the responses, ranging from 1 to 5, where 1 represents "Strongly Disagree" and 5 represents "Strongly Agree."

Higher the mean, better the implementation of the change management practices in Electronic Records Systems (ERS) integration.

Descriptive Research of ERS Integration and Organizational Performance.

The integration of ERS was also positively perceived, with the high means being reported to the records accessibility (M =4.08), operational efficiency (M = 4.05), and regulatory compliance (M = 3.96). The performance Positive perceptions were also observed in the outcomes of the organizational level in particular in terms of quality of decisions made (M = 3.97). The attitude of cutting costs (M = 3.42) and the sustainability of the system over the long run (M = 3.38) is average.

Table 5: Descriptive Statistics of ERS Integration and Organizational Performance Outcomes

Variable / Indicator	Mean (M)	Interpretation
ERS Integration		
Records Accessibility	4.08	High
Operational Efficiency	4.05	High
Regulatory Compliance	3.96	Moderately High
Organizational Performance		
Decision-Making Quality	3.97	Moderately High
Cost Reduction	3.42	Moderate
System Sustainability	3.38	Moderate
Overall Average	**3.81**	Moderately High

Likewise, the scale of the responses is based on a Likert scale with five points, ranging from 1 – Strongly Disagree to 5 – Strongly Agree. Higher means indicate higher positive perceptions regarding the Electronic Records Systems (ERS) integration and the consequent organizational performance outcomes.

Regression Analysis: Change Management Practices and Performance Outcomes.

The result of the multiple regression analysis, revealed that change management practices were important predictors of organizational performance outcomes ($R^2 = 0.43$, $F(4, 173) = 32.67$, $p < 0.001$). The most significant predictor was leadership commitment (= 0.38, p = 0.001), then staff training (= 0.24, p = 0.003) and communication (= 0.21, p = 0.012). The relationship between employee involvement and satisfaction was positive but not significant (-0.14, p= 0.089), which means that participative mechanisms are not yet developed. The coefficients were all in the right direction, which confirms the fact that successful change management, particularly leader-based support, is strongly correlated with the performance improvements in the petroleum industry of South Sudan that is tied to ERS.

Table 6: Multiple Regression Analysis of Change Management Practices and Organizational Performance Outcomes

Predictor Variable	β (Standardized)	t	p-value
Leadership Commitment	0.38	5.94	< .001
Staff Training	0.24	2.99	.003
Communication	0.21	2.53	.012
Employee Involvement	0.14	1.71	.089
Model Statistics			
R^2	0.43		
F (4, 173)	32.67		< .001

Dependent Variable: Organizational Performance Outcomes. β – standardized regression coefficient. The scale used to measure the response is 5-point Likert scale ranging from 1 – Strongly Disagree to 5 – Strongly Agree. The regression analysis is significant at 0.001 level; the combined variance of the independent variables is 43%, $R^2 = 0.43$.

Hypotheses Testing

To test the hypothesized relationships between ERS-related organizational performance outcomes and change management practices, multiple regression analysis was performed on the proposed relationships. The null hypothesis (H 1) that no

change management practices can affect the organization performance was rejected ($p < 0.001$), which showed the significance of the collective practices. Among the five hypotheses that are tested, leadership commitment (H 2) was the strongest, and the relationship between these two variables was statistically significant (0.38, $p < 0.001$). There were also statistically significant positive correlations between communication (H 3) (= 0.21, p = 0.012) and staff training (H 4) (= 0.24, p = 0.003), which confirmed H 2, H 3 and H 4. Employee involvement (H 5), even though it showed positive relationship (= 0.14, = 0.089) did not reach the 5% level of significance. Nevertheless, the positive correlation shows that it might be valuable and therefore should be investigated further. H_5 is thus partially accepted. In general, the research confirms that the achievement of better organizational performance as a result of ERS integration in South Sudan petroleum industry is impossible without structured change management conducted by the leadership, which is based on the challenges that characterize the environment.

Table 7: Summary of Hypotheses Testing Results

Hypothesis	Statement	β	p-value	Decision
H_1	Change management practices have no significant influence on organizational performance outcomes of ERS	—	< .001	Rejected
H_2	Leadership commitment positively influences organizational performance outcomes of ERS	0.38	< .001	Supported
H_3	Communication positively influences organizational performance outcomes of ERS	0.21	.012	Supported
H_4	Staff training positively influences organizational performance outcomes of ERS	0.24	.003	Supported
H_5	Employee involvement positively influences organizational performance outcomes of ERS	0.14	.089	**Partially Supported**

β = standardized regression coefficient; dependent variable = Organizational Performance Outcomes. Although employee involvement had a positive correlation with performance outcomes (β = 0.14), it failed to reach statistical significance (p = 0.089).

Summary of Key Findings

This research confirms once again that the best practices of change management are the key factors in the success of Electronic Records Systems (ERS) integration and enhanced organizational performance in petroleum industry of South Sudan. The most significant determinants of ERS adoption and performance improvement, particularly in operational effectiveness, compliance, and decision-making were identified as leadership support, capacity building of employees, and communication. Even though the influence of employee participation was reported to be less high, its positive nature makes more participatory change management methods more important.

Discussion

The study has also confirmed the necessity of change management activities in the achievement of performance gains through Electronic Records Systems (ERS) in petroleum industry of South Sudan. The high and powerful impact of leadership commitment also substantiates the principle of unfreezing of the Lewin theory of change, in which the executive support may be the force that triggers the change process by disrupting the status quo and providing the legitimacy to the change process (Burnes et al., 2018). The poor institutional environment in the case of South Sudan also implies that visible leadership, which is described by Deng (2023) in the case of the Ministry of Petroleum, is a driver of both transition (changing) and institutionalization (refreezing).

The training and communication also contribute substantially to the principle of unfreezing of

Lewin theory of change, where the necessity to minimize the resistance to change is accentuated by assuring the competency of the employees. The following research outcomes also substantiate the organizational aspect of the TOE model of technology adoption, which implies the critical role of human capital and internal coordination to the technology adoption (Hawash et al., 2020). Also in the context of Sub-Saharan Africa, Asogwa (2012) confirms the relationship between skill gaps and inadequate communication and underutilization of ERS that is also reflected in the moderate scores on training of the current study. One important observation made through the analysis is the positive albeit non-significant impact of employee involvement. Both theoretical approaches can also be used to explain this phenomenon.

To start with, the Lewin model suggests a partial unfreezing process whereby the employees have been sensitized to the change but not con-producers of the change process. Secondly, the TOE approach shows the role of structural constraints, which are common in hierarchical structures, especially post-conflict, with centralization of decisions, operational pressure, and lack of participation culture (Alier and Christine, 2023; Kumalo and Scheepers, 2021).

Conclusion and Implications.

As it is concluded in the study, the success of the ERS adoption in South Sudan does not always rely on the technology but on the good change management strategies, which among other things are supported by the leadership, training and information sharing in the following aspects.

1) The change management must be included in the ERS adoption strategy of petroleum companies beyond training to constant training and feedback mechanisms development that will ultimately lead to employee autonomy improvement.
2) The government personified by Nilepet is supposed to have a policy perspective of making sure that change management is incorporated in the norms of digital governance so that the adoption of the ERS can be converted into compliance and efficiency benefits.
3) Theoretically, the paper demonstrates the complementarity between the Lewin model and the TOE model of change by demonstrating how the two models could be improved further by incorporating the role of power in organisational environments.

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