Enhancing Business Continuity in the Oil and Gas Industry through Electronic Records Management System Usage to Improve Off-Site Working: A Narrative Review

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ABSTRACT

The primary function of an electronic records management system (ERMS) is to support organisations in providing effective records management services by enabling efficient remote access to the organisations' records. This helps the organisation to continue running during emergency events, such as the COVID-19 pandemic. The need to study ERMS for accessing records remotely has increased dramatically, due to the increase in daily use. The situation arising from the COVID-19 pandemic has increased the need for implementing proper digital systems, such as ERMS, to enable efficient work processes and enhance business continuity. An ERMS has the potential to allow organisations to create records and workflows off-site. During a pandemic, the ability to structure processes digitally helps in maintaining operations remotely. This study aims to provide a narrative review of the ERMS literature with an emphasis on explaining the primary components of ERMS that act as enablers for the implementation of the system in the oil and gas sector of developing countries. The current study proposes ERMS roles and responsibilities that could enhance business continuity. The authors use a qualitative narrative review and analyse the literature related to this study and its findings. The results show that, in cases of risk or crises, staff members need to have easy access to their records and documents to remain productive. An ERMS allows professionals to remain active and work off-site. Thus, ERMS play a significant role in protecting an organisation's content through the monitoring and control over who has authorisation to access its records.

Keywords: electronic records management system, digital transformation, business continuity, developing countries, oil and gas sector, legislation

1. INTRODUCTION

In recent years, digital transformation in the oil and gas sector has become essential, although many organisations are still lagging behind in terms of implementing electronic and digital systems, such as electronic records management systems (ERMS). Many oil and gas organisations need an ERMS to replace physical access to their documents with digital, remote access to support decision-making, to enhance accountability and business continuity, and to improve information quality management (Gezdur & Bhattacharjya, 2017; Hawash et al., 2019; Hawash et al., 2020b; Mukred et al., 2022). Therefore, digital transformation has shown real benefits for management in the oil and gas industry in terms of simplifying electronic processes and decreasing the cost of physical processes. An ERMS has many valuable features that help organisations improve their records management (Gezdur & Bhattacharjya, 2017).

An ERMS is a digital tool that has the ability to create and store an organisation's records. In oil and gas organisations, an ERMS is used to create well data, logistics records, human resources, and financial records and log drilling activities. ERMS have the ability to transfer information, track each transaction, and secure the information contained in records by making them available only to authorised users (Dinah et al., 2019; Mukred et al., 2019a, 2021). Many organisations use an ERMS interchangeably with other digital and electronic systems, such as electronic document management systems (EDMS) and electronic content management systems (ECMS). An ERMS is one of the most important tools for records management, designed to keep organisational information aligned with quality standards in order to support business continuity (Mukred et al., 2016).

In order to ensure ERMS functionality, the system requires an infrastructure capable of exchanging records between users and the ERMS software (Mukred et al., 2019b). ERMS can be used by managements of oil and gas organisations to enable record keeping and facilitate retrieval when documents are needed for access or disposal in the future (Hawash et al., 2020c; Mukred et al., 2018). Recently, the COVID-19 pandemic has hampered business in developed and developing countries, such as the USA, Italy, Brazil, South Africa, India, Yemen, and Malaysia. This has required the functions of most business processes to be carried out at home. This has made the ERMS an important system for enabling users to work from home and keep their data protected (Gasser et al.,

2020). This study has two objectives. The first objective is to present related literature to show the characteristics of ERMS that can enhance business continuity in developing countries, including Yemen. The second objective is to explore the enablers of ERMS implementation in developing countries. Therefore, a narrative literature review was conducted using databases, including among others, Science Direct, Emerald Insight, IEEE, JSTOR, Springer Link, and Wiley.

2. METHOD

For the purpose of this paper, the literature was reviewed and analysed to find relevant literature on the uses of ERMS for digital transformation. A narrative analysis investigating the content of the data to provide an overview of the practices and purposes of ERMS in the oil and gas sector, particularly in developing nations, was conducted. This study investigated publications that detailed the uses of ERMS in oil and gas organisations. Furthermore, the study examined articles related to EDRMS, EDMS, digital transformation initiatives, and archive practices in various operational settings, including the oil and gas sector in developed countries. The selection of articles was based on their aim, which is appropriate for this study. From sources such as Science Direct, IEEE, JSTOR, Springer Link, and Wiley, the review focused on publications published between 2018 and 2021, and a few important articles published in 2010, including both subjective and quantitative studies. The literature was reviewed several times to achieve the objectives of this study. This study analysed available content and the number of articles that were reviewed are 53.

Initially, certain keywords were applied in the searching process, both separately and combined with AND and OR: for example, electronic records, records management, electronic records management system (ERMS), electronic documents and records management system (EDRMS), business continuity, AND characteristics of ERMS. These keywords were combined with a variety of semantic equivalents to account for obstruction, such as issues, problems, success factors, obstacles, challenges, difficulties, and failure (in the context of assisting with business continuity). Additional articles were found on Google Scholar to ensure a wide coverage of papers. The study chose the selected keywords based on the experience of authors in the records management field, based on what was felt would be appropriate for the literature review. Articles that were identified as related or cited by the da-

tabases were also screened for relevance. The researchers chose high-impact journals in order to ensure accuracy and proven impact on the field of records management. Most of the selected articles addressed the use of ERMS in supporting organisational records management. In particular, within the reviewed articles, the researchers identified numerous suggestions for the use of ERMS tools for supporting business continuity during emergencies.

The study created a scoring rubric by cross classifying the oil and gas organisations' needs for the use of an ERMS. The researchers extracted information and classified each technological report noted by the selected articles according to the oil and gas organisations' targets, grade of innovation, and scalability to developing countries. An objective and systematic reading of the contents of the documents was carried out to identify how an ERMS is needed to support records management during emergencies in the oil and gas industry. Texts were also analysed by reading the abstracts and whole articles in order to identify their themes and relationship with the aim of this study. Moreover, the findings for relevant articles were summarised and synthesised. The narrative analysis approach used in this paper reveals how organisations respond to ERMS implementation while preserving the integrity and confidentiality of their important records.

3. CHARACTERISTICS OF ELECTRONIC RECORDS MANAGEMENT SYSTEMS

An ERMS allows users to electronically save, keep track of, recover, share, issue, and maintain records throughout their lifecycle. This system is a complete system covering the entire scope of organisational business activities (Kautto & Henttonen, 2020; Nguyen et al., 2016). An ERMS is key to business continuity as it has the ability to enhance many significant processes, including improving organisational service delivery, ensuring that organisational or industrial legal requirements are followed, and reducing serious, unintended consequences (Colwell, 2020). An ERMS represents a vital system for supporting the security and value of a business if it is applied correctly and actively (Al Ali et al., 2019).

The adoption of an ERMS enables oil and gas organisations to improve their digital systems, making them faster, more rigorous, and more trustworthy when users access large volumes of records. Thus, electronic records are kept safe, accessible, and maintained correctly (Luyombya, 2018; Luyombya & Bukirwa, 2014). Furthermore, the ERMS helps the oil and gas sector change their reporting system from paper records to electronic formats, which can be stored across organisations' ECMS in order to obtain maximum value from investment. Using information in an organised manner assists the oil and gas sector with compliance in term of regulations, requests for information, and efficient processing. Moreover, ERMS leads to improving operations by managing records that are accessible to the business in a manner that generates the most revenue for the country (Tsabedze, 2020a, 2020b). ERMS usage also increases the level of awareness among employees regarding the importance of business continuity in this sector. Furthermore, an ERMS protects records that contain important information related to the production of oil and gas. Such crucial information should be kept as confidential information (Luyombya & Bukirwa, 2014). Despite their effectiveness, ERMS still have a low rate of adoption in the oil and gas sector, although they would be beneficial tools for managing a large number of records. Thus, ERMS can help the oil and gas sector satisfy information management policies and fulfil external regulatory needs (Mukred et al., 2019c, 2021). ERMS increases efficiency in the management of records, which can help in making important data compatible with regulations, while also decreasing the likelihood and impact of litigation (Mukred et al., 2021; Taiwo, 2019). There are significant opportunities and potential future gains for ERMS, according to the National Archives of the USA (2016). Both private and public sector organisations have gradually had to improve their record keeping, largely due to the introduction of various laws and rules that cover reliable record management. The record management role has shifted from the fringes to the core of management (Hawash et al., 2020a, 2021).

The incorrect implementation of an ERMS can lead to poor management and errors. This has led companies to address the crucial components that are necessary for an ERMS to function effectively in the oil and gas sector, as shown in Fig. 1. These components are health, safety, and environmental (HSE); off-site; drilling; administration; logistics; registration; IS/IT; and HR and finance. Table 1 summarises and describes the functions of the ERMS components in oil and gas organisations.

Record keeping systems with the above features allow reliable, genuine, and information-rich records to be easily produced and maintained. Besides these features, records management systems must be able to execute a variety of standard tasks. This enhances business continuity and helps organisations continue working during the COVID-19 pandemic.
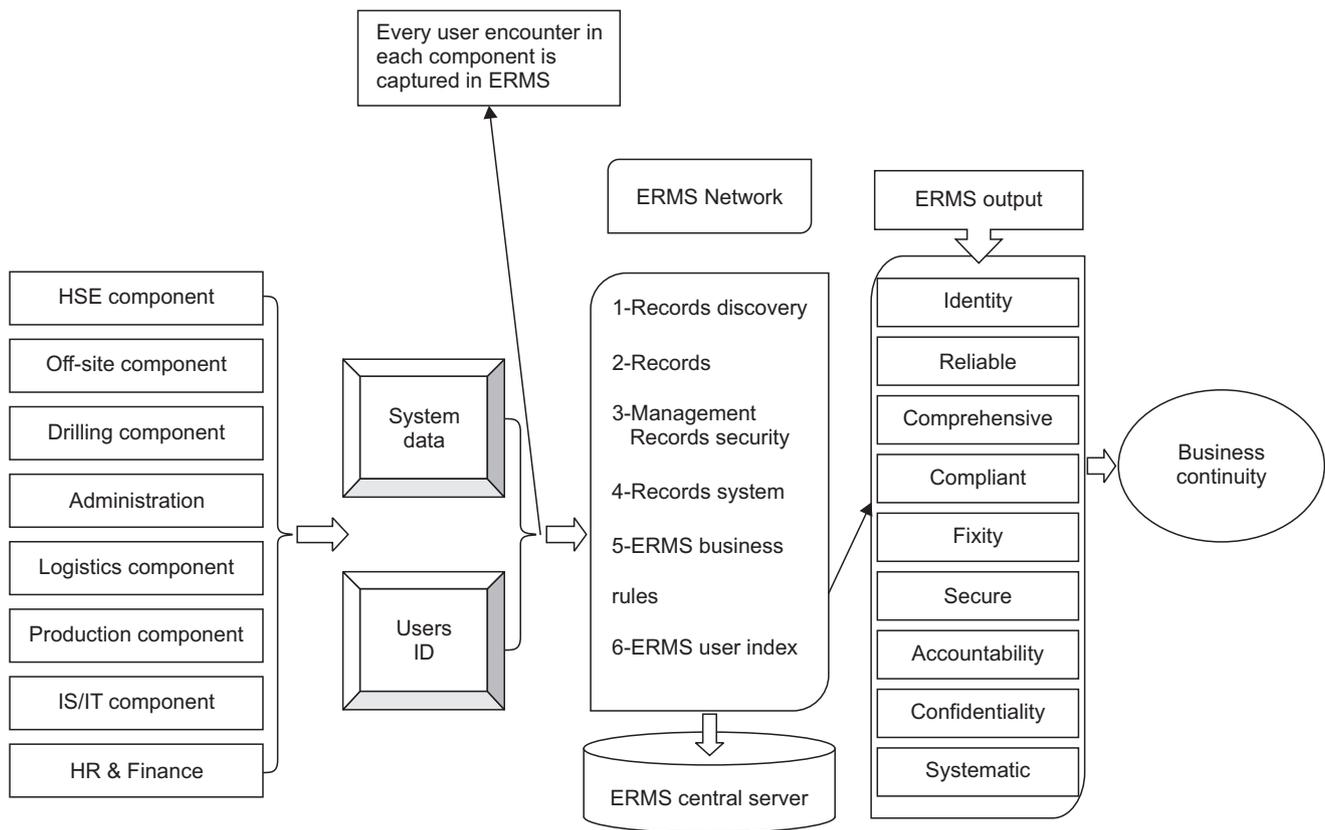
Fig. 1. Overview of electronic records system component in oil and gas sector, ISO/TR 21965:2019. ERMS, electronic records management system; HSE, ealth, safety, and environmental.

4. CHARACTERISTICS OF OIL AND GAS ORGANIZATIONS IN YEMEN

Yemen, as a Middle Eastern country, lies in a strategic location from the perspective of international trade routes. The country benefits from its vicinity to Babul Mandab, the Aden Gulf, the Red Sea, and the Arabic Sea as the main sea routes for international trade. The oil and gas sector is one of the most important sectors in many developing countries including Yemen, a country with unstable law and order conditions that is making gradual but primitive ventures into oil refining. Yemen is producing oil and gas to support the economy of the country. The oil and gas sector is supervised by the Ministry of Oil and Minerals (MOM). The functions of MOM are to provide policies and manage relations with foreign operators (Kassem et al., 2019; Ngoasong, 2014). There are two corporations operating in Yemen and they are the National Oil Company and the Yemen General Corporation for oil, gas, and mineral resources located in the capital city. These corporations have their own subsidiaries such as Petroleum Products Distribution Company, Yemen Gas Company, Aden Refinery Company, Petroleum Exploration and Production Authority, SAFER Exploration & Production Operations Company, Yemen Investments Company for Oil and Minerals, and Yemen Refining Company located in other cities throughout Yemen.

In Yemen, the Public Telecommunication Corporation (PTC) began implementing e-Government in 2009, which includes ERMS implementation. The Chinese government has pledged to provide the equipment and technical support necessary for setting up the required information and communications technology (ICT) with training and after-installation service support. Following the success of ERMS implementation in the PTC, the oil and gas sector is attempting to replicate this success but still requires technical support and relevant knowledge. ERMS adoption will also help the oil and gas sector to protect against information loss in the event of natural disasters, such as flood, tsunami, and earthquake.

Table 1. Description of functions of ERMS components in the oil and gas organization

ERMS component	Function	Benefits to business continuity
HSE component	Recognize and control hazards. Approve all work permits in the field. Give all employees training about safety and risks. Provide personal protective equipment	Keep the oil and gas sector work safely. Avoid any risk could cause a stop of the business
Off-site component	Protect and secure records or information from misuse or accidental destruction	Help authorized user to track information down quickly and efficiently during any emergency
Drilling component	Manage drilling data, wells monitoring system, mudlogging system, off-line data analysis, log drawing and reporting	Keep the drilling site active that help the oil and gas sector continue exploring and production oil
Administration component	Include all records and reports required by oil and gas sector regulations which shall be accessible at any time to the administrator	Manage the availability of information permanently or temporarily until the normal operations are resumed
Logistics component	Contain rigs material information, pipelines data, inventory, and production activities. Safeguard business information assets in all formats	Enhance the process of remotely accessing critical information that will quickly give users the access to crucial documentation they need
Production component	Provide organization with daily wells production records, export reports, production data mapping, data normalization, system evaluations, and daily production system operations	Improve efficiency of production operations and activities. Digitize all transactions that was done manually which enhance business continuity
IS/IT component	Manage, monitor all information systems and ICT activities in the OIL AND GAS sector including the management of records. Maintain e-mails in whole organization	Keep organization updated with all new systems and back up records for off-site used. Assess the potential for digital transformation initiatives
HR & Finance component	Maintain employee records with industry regulations. Manage fiscal and payroll system. Handle Performance Management, Retirement/ Termination, and training Documents	Store records in an electronic repository in a systematic way. allows to find and access the information that the emergency team need more efficiently

ERMS, electronic records management system; HSE, ealth, safety, and environmental.

5. DIGITAL DEVELOPMENT IN THE OIL AND GAS SECTOR

The oil and gas sector relies on ICT to conduct its business and uses information systems, big data, and other digital innovations to support its business and operations. In the early 1980s, oil and gas corporations began to adopt digital technologies, with a focus on the best software and systems used in drilling, reservoir services, and production departments. They also looked at technology that would ease HSE and enhance business continuity in developed and developing countries. A wave of digitalisation swept across the sector in the 1990s, bringing with it many new systems (Gezdur & Bhattacharjya, 2017). However, the sector has yet to take advantage of the opportunities that have arisen from the use of data, electronic records systems, and other technologies in a significant way. A particular drilling rig in an oilfield, for example, can generate a tremendous amount of data daily. However, only a small portion of this is relevant to decision-making and business continuity (Hawash et al., 2021).

The ERMS should be a part of daily routine and practice in oil and gas organisations. Many oil and gas organisations still do not use an ERMS to manage vital records due to a lack of knowledge of the significance of the system. The nature of work in the oil and gas sector is considered multifarious and structured across all sectors, with a need to incorporate new technology as soon as it becomes available. The ease with which the data can be monitored, maintained, and audited is critical in continuous development such as this, in relation to consolidation, milestones, and the myriad of difficulties that arise in factories, pipelines, land management, and development activities. The full scale and amount of infrastructure that is needed is indeed a unique obstacle faced in maintaining data. The massive, interconnected gas pipeline network

in the US, for example, consists of approximately 2.1 million miles of distributive and utility pipelines (Hawash et al., 2020a). Nearly a quarter of all US electricity is created using natural gas. These natural gas pipelines are supplied via direct supply lines from the local distribution companies to homes and other companies. Taking into account the large amount of varied information they deal with, oil and gas corporations should integrate a records management framework to minimise or avoid risk and to remain competitive in an unstable market.

The digital transformation of energy infrastructures has encouraged consumers to look at alternative sources and suppliers of energy, and has led them to support creative energy optimisation and marketing models. The oil and gas sector must consider the full effects of these developments in the wider energy market to remain competitive choices for consumers. Digital strategies describe the innovations that are intended to have profound effects on the supply chain of the industry, its employees, its related sectors, the climate, and the community (Devold et al., 2017). These efforts represent specific actions that companies should take when they use emerging technologies, such as ERMS, to change their market and business models, as shown in Fig. 2.

Consequently, the digitisation of records and information in the oil and gas sector has led organisations to continue working towards successfully implementing a records management policy. Such policies have been created to control the use of electronic records in government sectors, including the oil and gas sector (Devold et al., 2017). Therefore, public sector data and information need to be managed efficiently and holistically, and data sharing across the sector needs to be strengthened. In this regard, the adoption of an ERMS is a key initiative in realising these efforts. The adoption of an ERMS has a huge impact on an organisation's management and decision-making capabilities, providing records electronically that are available anywhere and at any time. This effective service further contributes to improving public service delivery. The incomplete use of ERMS, however, has negatively affected organisations' management of electronic records, and has adversely affected the oil and gas sector in Yemen (Hawash et al., 2020a). Adopting ERMS completely can enhance the performance of records management, thus creating a positive impact on organisational performance and business continuity. Therefore, the adoption of an ERMS needs to be coordinated and well managed to ensure that this initiative is accepted at all levels of users.
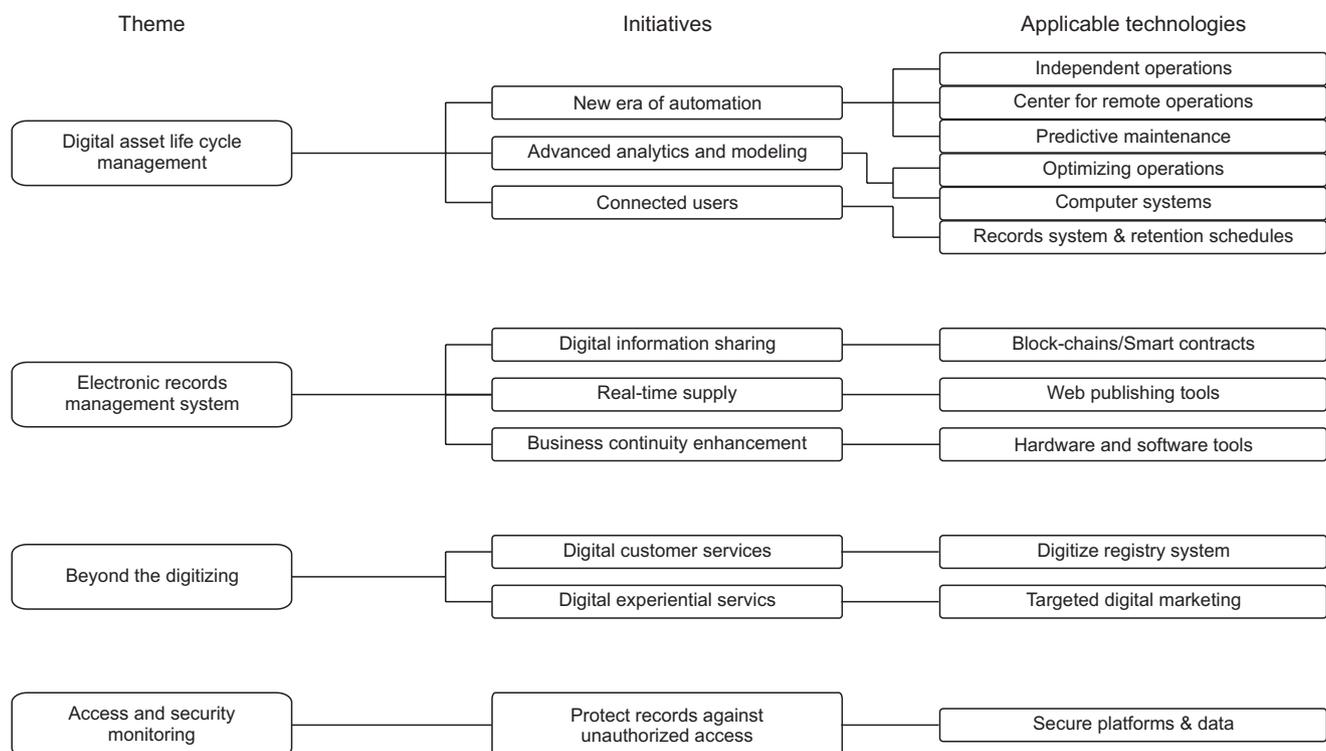

Fig. 2. Deployment of digital technologies in the oil and gas organization. Source: World Economic Forum.

6. ELECTRONIC RECORDS MANAGEMENT SYSTEMS USAGE AND BUSINESS CONTINUITY

An ERMS is important to support business continuity by identifying and managing current and future threats to records in the organisation (An & Wang, 2010). According to Sittig et al. (2014), many organisations have specified that the adoption of a new system, such as an ERMS, will improve or replace their current plans for business continuity. Organisations use various methods to support business continuity, such as protecting records and information from change or destruction by unauthorized users. However, these methods tend to be unprotected, archival, and particularly vulnerable to fire, overflow, and loss. Part of a company's top management's role is to mitigate or avoid the effects of a records-related disaster by identifying and protecting records deemed vital to the organisation. They must provide a secure environment for existing records and ensure their preservation. Hence, organisations, including those in the oil and gas sector, should adopt an ERMS to resolve these issues and to ensure that information survives disruptive events. The information in these records is important for business continuity and should be protected using a rigorous system (Ballmert, 2017).

Organisations have recognised the significance of electronic records in supporting management in revealing uncertainties that could lead to poor fiscal developments and social environments. In this context, electronic records are significant assets because they contain information considered essential to supporting business continuity (Jorrigala, 2017; Spremic et al., 2018). Records management is becoming more important in enabling organisations (both public and private) to deal with business challenges both internally and externally, thus supporting their business continuity. Therefore, organisations should identify and measure information assets, as well as electronic records, in order to improve their efficiency and effectiveness (Eroğlu & Çakmak, 2020). During emergencies, the organisation should know the details of the arrangements made to access records, which can easily be done through an ERMS. An ERMS supports the protection of these records, plays a critical part in ensuring the continuity of operations, and ensures that all organisational information is properly maintained and accessible when needed (Nyampong, 2015). An emergency team should swiftly access the electronic records that are required for continued business operations during a disaster, which can be done easily via an ERMS. These records, when managed properly, survive without any deletion or modification. During a disruptive event, there is no time to check the contents of these records. Any potential issues that could arise because of such an event can be resolved by using an ERMS.

Oil and gas organisations should use an ERMS to house their records and facilitate the effective operations of the organisation during its daily operations. In the event of a disaster, the content of records should be available, without any changes made to them, in order to guarantee the validity of records (Turton, 2017). Organisations that still use manual records management to save records in different places find that they are difficult to trace during an emergency (Luyombya & Bukirwa, 2014). The loss of any record can seriously undermine credibility, which reveals the urgent need to protect records that contain vital information. The use of an ERMS helps organisations arrange their records based on their business continuity plan or strategy (Akotia, 2016). Every organisation should create the necessary rules or guidelines for implementing an ERMS in line with the organisation's operational objectives, and ensures there is an appropriate management that avoids any business disruption if the information is lost.

Previous studies have indicated that an ERMS enables organisations to accumulate, recover, and disseminate secure information. In certain cases, an ERMS seems to be more functional for quick access to documents and for defining business continuity requirements (Marutha, 2019; Marutha & Ngulube, 2018). An ERMS enhances records protection, minimises record broadcast delays, facilitates the finding of records, and prolongs the lifecycle of records. Furthermore, an ERMS minimises issues related to records misplacement, and ensures business continuity in organisations (Turulja & Bajgoric, 2018). Thus, the use of an ERMS supports business continuity in the oil and gas sector in Yemen by guaranteeing the accuracy and availability of records during any disruptive event.

7. OPPORTUNITIES OFFERED BY ELECTRONIC RECORDS MANAGEMENT SYSTEMS IN THE OIL AND GAS SECTOR

An ERMS allows users to electronically save, keep track of, recover, share, issue, and maintain records throughout their lifecycle. The records system is a complete system covering the entire scope of organisational business activities (Nguyen et al., 2016). Thus, an ERMS should fulfil organisational or industrial legal requirements to be trust-

worthy, complete, accessible, legally sound, and robust. Hence, an ERMS ensures suitable security. An ERMS is considered in many organisations as a vital tool for optimising the security of records and the quality of the business (Mosweu, 2020). The adoption of an ERMS enables oil and gas organisations to operate faster by allowing ease of access to all records. Records need to be kept safe, accessible when needed, and be used in an organization (Luyombya & Bukirwa, 2014). The oil and gas sector needs to record many reports, which are currently stored throughout its organizations, digitised, and uploaded onto an ECMS in order to obtain the maximum value from the sector's investment. Using information in an organised manner will assist this sector with compliance with regulations, requests for information, and efficient processing. This can be achieved by adopting a sound electronic records system, such as an ERMS, to accelerate the growth of the sector.

Moreover, the adoption of ERMS in the oil and gas sector will lead to improvements in operations that will generate the most revenue for the country. It will also increase the level of awareness among its employees regarding the importance of business continuity in this sector. Furthermore, it will protect records that contain important information related to the production of oil and gas. Such crucial information should be saved as confidential information (Adam, 2007; Ambira, 2016). Despite its effectiveness, however, ERMS adoption remains low in the oil and gas sector in developing countries.

In the global oil and gas sector, ERMS are important for managing a large number of records. These records are generated on a daily basis to help organisations achieve their goals. An ERMS effectively implements regulations concerning the oil and gas sector, thereby reducing costs and increasing competitiveness. Thus, ERMS help the oil and gas sector to meet policy requirements for information management and fulfil external regulatory needs. Moreover, ERMS increase the efficiency of record keeping in the oil and gas sector, help make them compatible with regulations, and decrease the likelihood and impact of litigation. ERMS manage the creation and upkeep of electronic records to facilitate organisational operations (Taiwo, 2019).

There are significant opportunities and potential future gains for ERMS, according to the National Archives of the USA (2016). Private and public sector organisations have both gradually had to improve data storage, largely due to the introduction of various regulations and legislations that apply to reliable records. The role of records management has thus shifted from the fringes to the centre of corporate culture. Therefore, the adoption of ERMS in the oil and gas sector has many benefits (see Table 2).

Table 2. Benefits of ERMS

No.	ERMS benefit
1	Improving an organizations workflow, and providing evidence of business activities
2	Enable automation and monitors records throughout the lifecycle
3	Supporting decision making
4	Enhances records security and integrity
5	Assists in disaster recovery
6	Improving transparency and accountability
7	Eases of sharing information and ease of access to the information during an emergency
8	Provides retrieval history of managing records by tracking all access to records
9	Ensures that only authorized users and administrators can change the content of records
10	Supports and be compatible with the organizational classification scheme
11	Supports for evidence-based policy
12	Supports archives and records management legislation

ERMS, electronic records management system.

8. ENABLERS OF ELECTRONIC RECORDS MANAGEMENT SYSTEM IMPLEMENTATION IN DEVELOPING COUNTRIES

In developing nations, the introduction of ERMS in the oil and gas sector is associated with management, enhanced policy decision-making processes, and financial assistance related to acquiring IT and communication, as well as improving digital technology. In developed countries, ERMS capabilities encompass law, financial investment, workforce recruitment, leadership, technological appropriateness, expectations of success, and social impact (Bunawan et al., 2014; Mukred et al., 2019a). The following subsections provide more details on the enablers of ERMS in the oil and gas sector.

8.1. Legislation

In the field of information management, oil and gas organisations have specific laws, regulations, and protocols that apply to them, including the Government Management Operational Policy, Monetary Administrative Operational Policy, Operational Records Classification Systems, and Administrative Records Classification Systems. Within this regulatory and policy framework, every mechanism for the handling of documents must function in an approved manner. There are many examples of these legislations in developing countries, such as the National Archives and Records Service of South Africa, the National Archives of Turkey, and the National Archives and Records Management Policy in Malaysia. These legislations represent laws, policies, practices, and standards that define the position of state, regional, and local administrations in terms of the implementation of records management systems (Netshakhuma, 2019). Managements in developing countries have encouraged the adoption of electronic record technologies in order to support operations and business continuity.

8.2. Fiscal Assets

Many developing countries need to support fiscal assets and develop fiscal records in relation to security and confidentiality. For example, a study conducted in Turkey recommended the adoption of ERMS to support sufficient financial resources for procurement requests in order to remove the gap between records management and assets. Another study touched on the need for an ERMS in relation to the sustainability of electronic medical records systems (EMRSs) in southern Africa, and revealed that fund-

ing EMRSs (e.g., IT infrastructure, employment of staff, and operating costs) is important. In Uganda, collaboration between service providers and record managers has been confirmed to be happening (Luyombya et al., 2018). This effective collaboration can result in successfully implemented systems. This approach can help mitigate the common challenges encountered by ICT implementers in developing countries.

8.3. Staff Training

Training is extremely important for all organisations because it provides knowledge and skills to the management and staff of the organisation with regard to new techniques, systems, and technologies (Salimans et al., 2016). In this study, training is related to practising ERMS skills that should be studied by oil and gas employees in order for them to use the system effectively. Training for users will increase their general understanding on the uses of an ERMS. Thus, the emphasis should be on facilitating usage, including correct IT set-up and familiarisation with the ERMS to enhance employee adoption of the ERMS. The need for continuous training in how such a system works is necessary to avoid failure of the systems implementation. Moreover, an ERMS is an automated system that needs new specialists to use it. Thus, employees should be trained properly to avoid the failure of system integration. Any delay in considering and providing training to users could adversely affect the use of the system to achieve organisational objectives (Mosweu & Kenosi, 2018).

8.4. IT Personnel

Effective IT personnel can dramatically improve the success rate of using ERMS in the oil and gas sector. Many organisations depend on ERMS experts who have a deep understanding of managing data electronically. In developing nations, however, most ERMS studies have either addressed the preparation or evolution of valuable requirements needed for electronic data processing, examined long-term strategies for electronic records preservation, or created best-practice guides to assess the utility of the ERMS adopted by companies (Hawash et al., 2020c; Mukred et al., 2019c). Almost all of the ERMS studies in existing literature have adequately addressed construction professionals, IT staff, IT administrators, and IT experts. In leading advocacy countries, such as Australia, the UK, and the US, IT leaders and experts have contributed significantly to the concerted endeavours to resolve ERMS problems and concerns (Currie & Spyridonidis, 2019; Jo-

hare et al., 2013).

In developing countries, IT personnel can be a significant factor in ensuring the effective implementation of ERMS in oil and gas organisations. The key is to ensure that a relevant system is in place, accompanied by related policies and procedures on its use. Involving IT experts in ERMS implementation or adoption is essential, and increases cooperation between both records administration and IT players to maintain the widest interpretation of specifications and optimisation of the advantages of deployment. The business models and technological criteria of the individuals using the platform are important and must be integrated into the requirements. This helps the project, including the architecture and system setup, and especially the user interface, creation of business rules, work area preparation for ERMS deployment, skill gaps, knowledge sharing, and communication policies.

8.5. Acceptability of Technology

Many researchers have shown that acceptance of technology is influenced by several factors, such as IT knowledge levels, benefits offered by the new technology, and fears that the new technology may be difficult to learn (Skoumpopoulou et al., 2018). Recent studies have revealed that the adoption of new technologies, such as enterprise resource planning systems and ERMS, by oil and gas sector personnel in developing countries, can be influenced by the level of the system's ease of use (or simplicity) and end-users awareness (Azima et al., 2019; Rafique et al., 2020). User satisfaction is also a significant determinant in the introduction, deployment, and use of IT in an organisation, as the degree of user satisfaction with a recently introduced system determines the success of using any new technology.

9. CONSTITUTION OF ELECTRONIC RECORDS MANAGEMENT SYSTEMS

The aim of records management is to have proof of commercial operation when necessary, in order to avoid any legal problems. This can be handled by generating the contents of records as contextual information (metadata), protecting the records that are used by an organisation to support its operation through supporting the legitimacy and accuracy of information and imposing a retention process (Alalwan et al., 2017, 2018). For an ERMS to function correctly in an organisation, administrators and IT experts must be involved in managing the records together in order to apply an ERMS completely, thus encompass-

ing all the processes in the company (Campbell, 2016).

An ERMS receives and manages records that can be imported from an EDMS or an enterprise content management (ECM) system to deliver a complete solution (Nguyen et al., 2016). An ERMS facilitates decision-making by recording, collecting, and enhancing the efficiency of company operations (Katuu, 2016). The main function of an ERMS, as required by the management, is classifying, storing, and retrieving records that the organisation needs to keep for future use. Furthermore, an ERMS supports the philosophy of records management because it has the ability to capture, describe, manage, store, and dispose of records in an electronic format. An ERMS supports the retrieval process of electronic records from the place where they are stored based on accepted principles (Ambira et al., 2019). ERMS were developed based on early computerised practices of the management of hardcopy records, while EDMSs were developed from software intended to manage basic documents, subsequently becoming a computerised technique for managing large volumes and categories of documents, such as process instructions (Chang et al., 2020; Xue et al., 2019).

Nguyen et al. (2016) found that ERMS and EDMSs accomplish distinctive tasks, such as retrieving, viewing, and printing records and documents simultaneously. An EDMS creates, edits, modifies, deletes, or saves documents. Subsequently, protected documents can be reformed as records, and duplicate copies of these documents can be transferred into an ERMS, which protects them from being edited, altered, or deleted (Katuu, 2018). Neither ERMS nor EDMSs fully fulfil the requirements of handling the whole lifecycle of a document. Nevertheless, the additional method of combining an EDMS and an ERMS ensures that information, including e-mails, can be recorded. According to Azima et al. (2019), merging the functionality of an EDMS with the requirements of an ERMS enables the reuse of electronic information, and ensures the integrity and retention of electronic records. Therefore, the combination of an ERMS and an EDMS leads to a new system, called an EDRMS, which is considered supportive.

The ECM Association and the Association for Information and Image Management define an ECM as the technology used to capture, manage, store, preserve, and deliver content and documents related to organisational processes. ECM tools and strategies allow for the management of an organisation's unstructured information, wherever that information may exist. EDMSs may be more suitable for some public sector organisations, whereas

ECMs may be more suitable for content management (Jaakonmäki et al., 2018). However, ERMS include features such as rigorous retention controls, historical logging, and archive transfer and destruction, making them more suitable for the oil and gas sector. Furthermore, ERMS are the most effective systems for oil and gas organisations in developing countries because they can easily communicate with their existing records management software. In particular, the processes of classification and retention can be assessed in line with the organisation's governmental requirements (Nguyen et al., 2016).

10. FINDINGS AND DISCUSSION

The narrative review revealed potential for IT professionals to present opportunities for ERMS use, both in public and private sectors, including the oil and gas sector, in developing countries. It also categorised and identified obstacles to ERMS implementation in the oil and gas sector that need to be discussed before developing the system in order to guarantee success. The key success factors of ERMS implementation are the users, managers, and IT experts who are demonstrating the success of the ERMS role in employing system demand and supply principles for decision-making and business continuity. The presented literature revealed that organisations need to understand the characteristics of ERMS to ensure their efficiency and effectiveness. Hence, the study identified key stakeholder roles and responsibilities needed in the implementation of the ERMS for managing records and supporting business continuity during crises, such as the present pandemic, in developing countries.

The narrative review undertaken in this study reveals that, in the event of a risk or crisis, staff need to have easy access to their records and documents to remain productive. An ERMS allows staff to remain active and work off-site, while protecting the organisation's content through the monitoring and control of authorisations. Contemporary ERMS support the creation of methods and work processes for off-site operations. Throughout a crisis, users or managers are able to build and create their processes electronically or through digital systems that lead to quicker recovery times and compliance monitoring, even for office staff. This promotes market management and the effective delivery of services even during disturbances.

As a result, ERMS can capture and create records and information that need to be documented and replicated in a safe manner. Major failures are unlikely to result in substantial data loss if ERMS-based catastrophe response processes are in place. ERMS enable easy integration with organisations' servers and platforms, enabling managers to support business continuity objectives. Therefore, the records included in the plans for business continuity are supported through ERMS. Users find it useful if all parts of a business continuity plan are in a single document for ease of reference. Thus, this study reveals that ERMS guarantee the obtainability, in all situations, of data critical to the rebuilding of an organisation's vital current records and archival records.

ERMS have the ability to systematise records, increasing transparency and accountability in relation to important information. The system provides consistent and strategically captured information with which to enhance business continuity. In other words, ERMS should be the basis for productivity as effective measures to support business continuity in oil and gas organisations. Additionally, electronic records have the ability to support transparency and accountability when they are managed systematically.

This study has verified that ERMS adoption would assist top management in the oil and gas sector in updating plans in order to protect information and records during disruptive events. This would enhance business continuity by keeping important information secure and easy to locate. This study assists records users, managers, and adoption teams by improving their understanding of the benefits of, and incentives for, using an ERMS. The findings of this study help shape practical awareness and improve the planning documents, which could help the oil and gas sector ensure employee satisfaction with ERMS services in supporting business continuity. The practice and use of ERMS will change records management from manual to systematic, which is considered to be of critical importance in the reviewed literature.

11. THE USE OF AN ERMS IN THE OIL AND GAS INDUSTRY IN DEVELOPING COUNTRIES DURING THE PANDEMIC

Oil and gas firms are being affected by the demand disruptions caused by the COVID-19 outbreak and the current market oversupply (Indupurnahayu et al., 2021; Norouzi, 2021). This has resulted in many changes in the way work is being conducted, and has forced organisations to shift their activities from physical to online processes, which can be carried out from home. The oil organisations affected have created many digital and electronic records during this time, which need to be accessed through

the system. ERMS is beneficial in managing these records online. As a result, ERMS supports the new processes that are being conducted during this pandemic. The combination of digital, cloud computing, and the new normal in oil pricing has set the stage for a tremendous revolution in the oil and gas sector. With the magnitude of oil and gas operations, even small changes have significant effects. This has been proven by oil and gas businesses exploiting developments in digital technology throughout the value chain, and the following sectors having the potential for larger influences as a result.

The use of an ERMS enables oil and gas organisations to digitally transform business processes during a pandemic and enables users to work and collaborate regardless of their locations. With many employees operating from home, remote access to data and documents is critical. Compliance and security need special care. Particular attention should be paid to roles and permissions in an organisation's records management system. Additionally, storage concerns, a lack of automation, inadequate backup records, and readiness to accept change may need to be addressed.

12. CONCLUSIONS

This paper has used a narrative review to provide an overview of the existing ERMS literature, with an emphasis on explaining the characteristics and main components of ERMS and presenting evidence regarding the implementation of ERMS in the oil and gas sector in developing countries. The advent of ERMS has digitalised oil and gas data by transforming records management systems from manual to electronic devices. However, ERMS use in developing countries is still limited, despite the large generation of records in these settings. ERMS implementation facilitates the trend of digitalisation that will enable the oil and gas sector to progress to the future, and help respond to their needs, particularly during the current COVID-19 pandemic. Successful ERMS implementation requires commitment from top management and IT leaders in terms of policy directives, source enrolment, and evidence-based decision-making. This study contributes significantly to the field of ERMS application, motivating management in the oil and gas sector to focus on the digitalisation of their information, which is created daily, in order to support business continuity.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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