INTEGRATED DOCUMENT MANAGEMENT SYSTEM USING THE ALFRESCO PLATFORM FOR CONTRACTING COMMUNICATION AND MOBILE PHONE SERVICES

Mihai ANDRONICEANU

Ministry of Transport and Infrastructure, Romanian Railway Authority, Bucharest, Romania
androniceanu.mihai@afer.ro

Abstract
Document management is necessary for any organization in the public or private sector. This process includes creating, storing, organizing, identifying, manipulating, editing, and using an organization's documents to serve its objectives. The research aims to present and explain an integrated management system that uses the Alfresco platform for contracting electronic and mobile phone services in an organization. The article is based on a case study and contains the architecture of the management model for implementing the changes determined by the new integrated document management system. The estimated results confirm the multiple advantages and efficiency of changes in document management that integrate the Alfresco platform. The study is a good practice that can be extended to activities other than that exemplified in the study underlying the paper. The study ends with a short presentation of the key benefits that prove an increased level of efficiency and effectiveness generated by the Alfresco platform.
Keywords: document management; Alfresco platform; integrated document system; mobile phone services; contracting

1. INTRODUCTION

The integrated document system is a software solution that facilitates the organization, storage, management, and access of documents and information in an organization (López et al., 2021). It can be used to centralize all documents in the company, generate reports and analyses, integrate the solution with other systems in the organization, store documents in a structured way, and much more.

Such a system can be useful for creating and recording documents efficiently and securely. It allows users to draft files using different formats, organize them by relevant criteria, access them quickly and easily, modify them, and distribute them to those interested. The document management system ensures the improvement of internal processes in the contracting service and other fields of activity, including human resources, accounting, and production departments, considerably reducing the time spent identifying and verifying source documents (Jordan et al., 2022; Colesca, 2009). To implement such a system, it must be designed and the appropriate organizational conditions must be created (Polyzos, & Tsiotas, 2023).

A performant document management system allows employees to be more efficient and gives managers a much clearer image of the business, having at hand and well-organized all the documents and data necessary for good management of the activity (Lăzăroiu et al. 2022).

Such a system manages the organization's digital assets (documents, procedures, sketches, plans, projects, source codes, how-tools), images of paper documents (scanned documents), internal workflows of the organization, and records management (Androniceanu, A, 2023; Sternad Zabukovšek et al., 2023).

Metadata (or attributes) are stored for each document. Metadata, for example, can include the date of the document and the user who created the document. Metadata falls into two categories:

- General metadata – document date, author, last modified date, author of the previous version, document size, current version, internal - unique number, registration number, document register;

- Specific metadata – depending on the category of documents in which the file was framed.

Androniceanu, M.

INTEGRATED DOCUMENT MANAGEMENT SYSTEM USING THE ALFRESCO PLATFORM FOR CONTRACTING COMMUNICATION AND MOBILE PHONE SERVICES

In the broad context of digitization (Androniceanu, Georgescu, 2023), document management software such as the Alfresco platform is designed to help companies efficiently manage and track their documents in a digital environment (Androniceanu, 2024; Nica et al., 2023). The components of such software may vary depending on the specific features of the system, but in general, such a system might include the following functionalities: (1) document creation and recording, (2) scanning, (3) processing, (4) storage, (5) management, and (6) document tracking within the organization.

A document management system can improve the way an organization works by reducing time and costs, facilitating collaboration between employees and stakeholders, ensuring compliance with legal standards and regulations, and protecting sensitive data (Cumpa et al., 2022)

Such a system may include functionalities such as document creation and registration, scanning, processing, storage, management and tracking of documents within the organization.

The components of such software may vary depending on the specific characteristics of the system, but in general, such a system could include the following functionalities: (1) centralization of all documents in the company; (2) generation of reports and analyses; (3) the ability to integrate the solution with other systems in the company, (4) storage of documents in a structured way and more.

DMS and electronic archiving systems ensure: (1) document traceability and versioning of organization documents; (2) centralized storage of all electronic documents significant to the organization; (3) unitary backup for all organization documents; (4) modeling; (5) control and monitoring of document workflows within the organization and (6) electronic archiving of documents (Dwarika, 2023).

2. DOCUMENT MANAGEMENT USING THE ALFRESCO PLATFORM FOR CONTRACTING ELECTRONIC AND TELECOMMUNICATIONS SERVICES IN AN ORGANIZATION

The main purpose of document management using the Alfresco platform is to ensure efficient file management and their availability whenever it is necessary to quickly access information in documents, safely and by authorized personnel (Flinchbaugh & Pierce, 2021; Huang et al., 2020).

2.1. Main requirements for the use of Alfresco platform

In the process of analyzing and selecting a document management system, the organization's management needs to consider the following requirements and criteria: security; scalability; ease of use; integration; customization; support and maintenance. To run Alfresco, certain system requirements must be met. Alfresco offers support for several versions of its products, including Alfresco Content Services and Alfresco Process Services. The system requirements for Alfresco Content Services are as follows:

- Server OS: Windows Server 2012R2 (64-bit) or Red Hat Enterprise Linux (64-bit);
- Web server: Tomcat 8.x+ (64-bit);
- Java: Java 11+ (64-bit).

Electronic documents are essential to be able to use the Alfresco platform in an organization (Sambetbayeva et al., 2023). They are of several types, as follows:

1. Documents developed in text editors (word processors such as Microsoft Word, LibreOffice Writer, and Google Docs);

2. Electronic copy of paper documents (obtained by scanning - example: supplier invoices, issued invoices, minutes, contracts);

3. Source or binary files obtained by the organization's staff as a result of its activity (examples: program files (pas, .c, java), graphic application files (Maya, 3D Studio Max), executable files (exe). This category includes any other file type.

Androniceanu, M.

INTEGRATED DOCUMENT MANAGEMENT SYSTEM USING THE ALFRESCO PLATFORM FOR CONTRACTING COMMUNICATION AND MOBILE PHONE SERVICES

Many document management systems integrate with other software systems (ERP, CRM, specific systems) so that users can retrieve their documents directly from the document database. Such integrations are also available for Office packages (Word, Excel, Visio, Microsoft Project) and email (Outlook, Lotus). Integration often uses ODMA, LDAP, WebDAV, or SOAP standards. DMS systems also offer programmable interfaces and APIs with which code sequences specific to the requirements of the company using it can be written (for example: sending an SMS when approving a document).

2.2. Use of the Alfresco platform for contracting mobile telephony services

The use of the Alfresco platform for contracting mobile telephony services within an organization consists of several sequences, presented below.

2.2.1. Argumentation of the need for an integrated document management system based on the Alfresco platform

It is important to relate to the results of the analysis of needs and opportunities. The analysis of needs and opportunities involves identifying and evaluating problems, causes, effects, strategic objectives of the organization, and resources involved in the context of change management, as well as establishing priorities and ways of action to implement organizational changes (Orlikowski & Hofman, 1997; Amin, 2022; Payne et al., 2023; Sancak, 2023).

Reporting to the results of the needs and opportunities analysis has the role of demonstrating the need (if the new document management system meets the real needs), the adequacy (if the change is consistent with the management objectives and with the resources that the organization has or can attract through various financing programs) and the feasibility of the project, i.e. if it is technically feasible, financially, organizationally and legally, given the necessary changes. For this, various methods are used, such as: diagnostic analysis, SWOT analysis; cost-benefit analysis; PESTEL analysis, etc (Phillips & Klein, 2023).
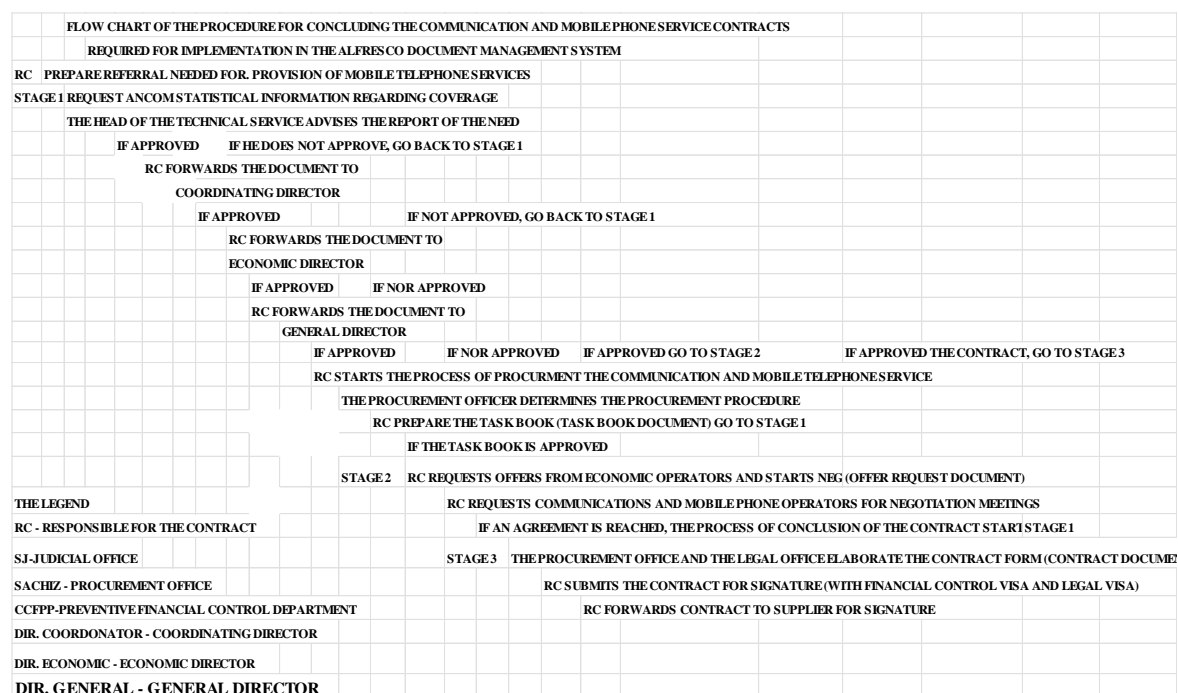

FIGURE 1 - FLOW CHART FOR THE COMMUNICATION AND MOBILE PHONE SERVICE CONTRACTS

Androniceanu, M.

**INTEGRATED DOCUMENT MANAGEMENT SYSTEM USING THE ALFRESCO PLATFORM FOR CONTRACTING
COMMUNICATION AND MOBILE PHONE SERVICES**

2.2.2. Design of the integrated document management system using the Alfresco platform.

The flow diagram for the electronic telecommunications and mobile telephony contracting service is shown in Figure 1.

The process of customizing the Alfresco platform for the task book preparation and approval is shown in Figure 2.

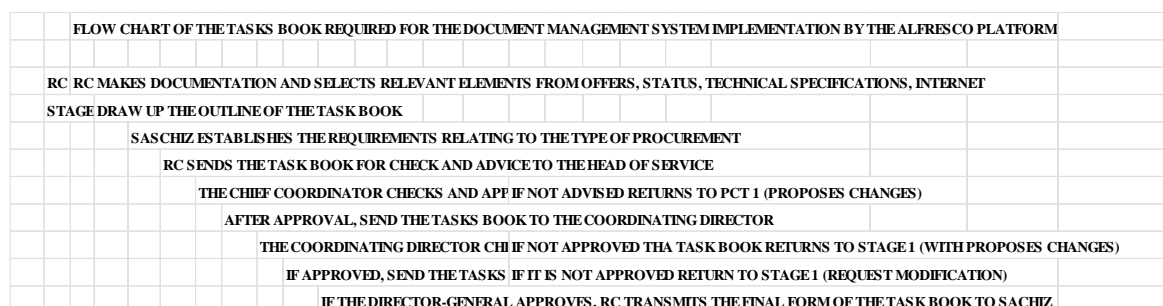|		FLOW CHART OF THE TASKS BOOK REQUIRED FOR THE DOCUMENT MANAGEMENT SYSTEM IMPLEMENTATION BY THE ALFRESCO PLATFORM		
RC	RC MAKES DOCUMENTATION AND SELECTS RELEVANT ELEMENTS FROM OFFERS, STATUS, TECHNICAL SPECIFICATIONS, INTERNET			
STAGE DRAW UP THE OUTLINE OF THE TASK BOOK				
	SASCHIZ ESTABLISHES THE REQUIREMENTS RELATING TO THE TYPE OF PROCUREMENT			
	RC SENDS THE TASK BOOK FOR CHECK AND ADVICE TO THE HEAD OF SERVICE			
	THE CHIEF COORDINATOR CHECKS AND APP	IF NOT ADVISED RETURNS TO PCT 1 (PROPOSES CHANGES)		
	AFTER APPROVAL, SEND THE TASKS BOOK TO THE COORDINATING DIRECTOR			
	THE COORDINATING DIRECTOR CHI	IF NOT APPROVED THA TASK BOOK RETURNS TO STAGE 1 (WITH PROPOSES CHANGES)		
	IF APPROVED, SEND THE TASKS	IF IT IS NOT APPROVED RETURN TO STAGE 1 (REQUEST MODIFICATION)		
	IF THE DIRECTOR-GENERAL APPROVES, RC TRANSMITS THE FINAL FORM OF THE TASK BOOK TO SACHIZ			

FIGURE 2 - FLOW CHART OF THE TASKS BOOK REQUIRED FOR THE DOCUMENT MANAGEMENT SYSTEM IMPLEMENTATION BY THE ALFRESCO PLATFORM

Another example of customization is for the service of contracting communications and mobile telephony services using the Alfresco platform. Figure 3 shows the flow diagram of the contracting activity.
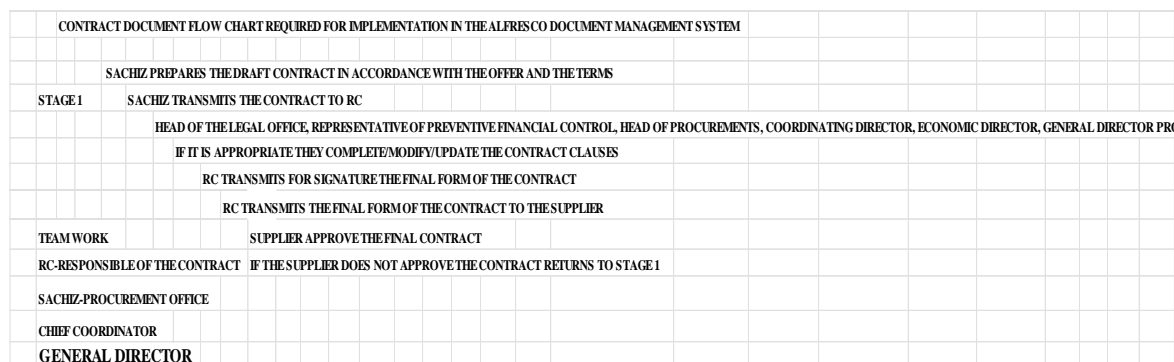
		CONTRACT DOCUMENT FLOW CHART REQUIRED FOR IMPLEMENTATION IN THE ALFRESCO DOCUMENT MANAGEMENT SYSTEM		
		SACHIZ PREPARES THE DRAFT CONTRACT IN ACCORDANCE WITH THE OFFER AND THE TERMS		
STAGE 1		SACHIZ TRANSMITS THE CONTRACT TO RC		
		HEAD OF THE LEGAL OFFICE, REPRESENTATIVE OF PREVENTIVE FINANCIAL CONTROL, HEAD OF PROCUREMENTS, COORDINATING DIRECTOR, ECONOMIC DIRECTOR, GENERAL DIRECTOR PRO		
		IF IT IS APPROPRIATE THEY COMPLETE/MODIFY/UPDATE THE CONTRACT CLAUSES		
		RC TRANSMITS FOR SIGNATURE THE FINAL FORM OF THE CONTRACT		
		RC TRANSMITS THE FINAL FORM OF THE CONTRACT TO THE SUPPLIER		
TEAM WORK		SUPPLIER APPROVE THE FINAL CONTRACT		
RC-RESPONSIBLE OF THE CONTRACT		IF THE SUPPLIER DOES NOT APPROVE THE CONTRACT RETURNS TO STAGE 1		
SACHIZ-PROCUREMENT OFFICE				
CHIEF COORDINATOR				
GENERAL DIRECTOR				

FIGURE 3 - FLOW CHART OF THE CONTRACTING SERVICES USING THE ALFRESCO PLATFORM

2.2.3. Stages of implementation of the Alfresco platform

The main steps of the management process associated with electronic communication and mobile telephony services are rhe following:

Team building and the key tasks during the implementation process

The team includes experts in contracting telephone services and IT experts, along with representatives of the organization's management, respectively department directors, heads of services and offices with managerial attributions and skills in contracting mobile telephony services (Fayyad et al., 2023).

The roles assigned by the site administrator have the following rights: manager – full rights, collaborator – editing rights, does not delete content created by other members, contributor cannot edit or delete content of other members, coordinator – full rights, editor – editing rights but not to create content, user – viewing and downloading rights (Sundaresan & Zhang, 2022). Tasks means documents issued in the process of concluding a contract.

Androniceanu, M.

INTEGRATED DOCUMENT MANAGEMENT SYSTEM USING THE ALFRESCO PLATFORM FOR CONTRACTING COMMUNICATION AND MOBILE PHONE SERVICES

Documentation and preparation of organisational change

Documentation and preparation of organizational changes (Sveningsson & Sörgärde, 2023) is an important and complex stage, containing the following main activities:

- Establishing clear and consistent rules for naming, classifying and archiving documents so that they are easy to find and access by authorized users;

- Use the advanced search function of the system to quickly locate the desired documents, using keywords, metadata, filters or logical operators;

- Using the system versioning function to track change history and revert to previous versions of documents if necessary;

- Implement appropriate security measures to protect documents from unauthorized access, alteration, deletion or accidental loss, using passwords, encryption, backup, or cloud storage;

- Compliance with legal norms and regulations regarding the storage, destruction, or transfer of documents, depending on their type and lifetime.

Choosing a software solution

Choosing a solution is suitable for the organization, offering functionalities for storage, versioning, metadata, security, indexing, retrieval, distribution and archiving of documents.

This is achieved through several activities of team experts, the most important of which are the following:

- Organizing content within directories;

- Version control (storage of working variants);

- Indexing and extracting metadata from the content used;

- The possibility of implementing rules, to achieve a certain behavior desired by the developer;

- Creating tags to easily index and retrieve documents, search criteria are documents and directories created that contain "a word" in the title, in the name, in the description, in the text, created in the specified date or interval, which are modified in the specified date or interval;

- Simultaneous collaboration between several users on the content of a document (each user is assigned permissions depending on what they are allowed to do on the site (personalized work environment). Manager, contributor, contributor, user, manager, and editor roles are possible;

- Creating document temples (forms) and developing digital documents based on them (Androniceanu et al, 2022);

- Integration with the institution's email application;

- The possibility of configuring an authentication mechanism within the application through active directory;

- Full-text indexing of content;

- Using workflows. Multiple preconfigured workflows with start are possible through the My Task statement that assigns the creation of flows, approval for a single group of users, creation of approval flow for a single user or multiple users, and creation of approval flow for a group. There is also the option to hand over work in the pool, ie to one of the users assigned to it.

Planning and execution

The process of installing, configuring and testing the software solution is done carefully so that the standards and legal regulations in force are observed.

Androniceanu, M.

INTEGRATED DOCUMENT MANAGEMENT SYSTEM USING THE ALFRESCO PLATFORM FOR CONTRACTING
COMMUNICATION AND MOBILE PHONE SERVICES

The activities within the approval of a contract for the provision of mobile telephony services are as follows:

- Preparation of the report of necessity for the purchase of the service highlighting the need, users, minimum characteristics (described by the specifications), estimated value and possible bidders and its management approval;

- Preparation of the tender specifications containing the object of procurement, the requested delivery term, reception conditions, general requirements (coverage area, qualitative reception, specific requirements), minimum technical conditions covering the beneficiaries' requirements for use, award criterion and management approval;

- Request to ANCOM to provide statistical data regarding the territorial and population coverage of the signal emitted by the main mobile operators;

- Establishing the value allocated for the service of providing rooming data in reasonable terms depending on the activities carried out by users;

- Consulting the legislation in force regarding the mobile telephony supply service and the procurement law to comply with the specific procedure depending on the value of the contract;

- Request an offer from economic operators on the market;

- Choosing the best offer;

- Realization of the contract format legal service endorsement and preventive financial control;

- Approval by the management of the supplier and the beneficiary of the contract.

The following team will participate in the implementation of the mobile telephony service procurement activities (as a working example) to which the roles will be assigned: contract manager (contributor), head of service responsible for contract (coordinator), head of legal service (contributor), procurement responsible (contributor), coordinating director (manager), economic director (manager), CFFP responsible (contributor), general manager (manager). They can intervene in the content of the document on the platform specifically, according to the role (duties, competencies, and responsibilities) and tasks set by IT experts and following specific organizational documents such as: job description, organization and functioning regulation, and Organization Chart.

Workflows help monitor the activities of the platform coordinator and other users.

Launching a workflow

Launching a workflow generates a workflow task, such as a review. From the file click More then Start Workflow. After that, the Start Workflow window opens as seen in Figure no.3.
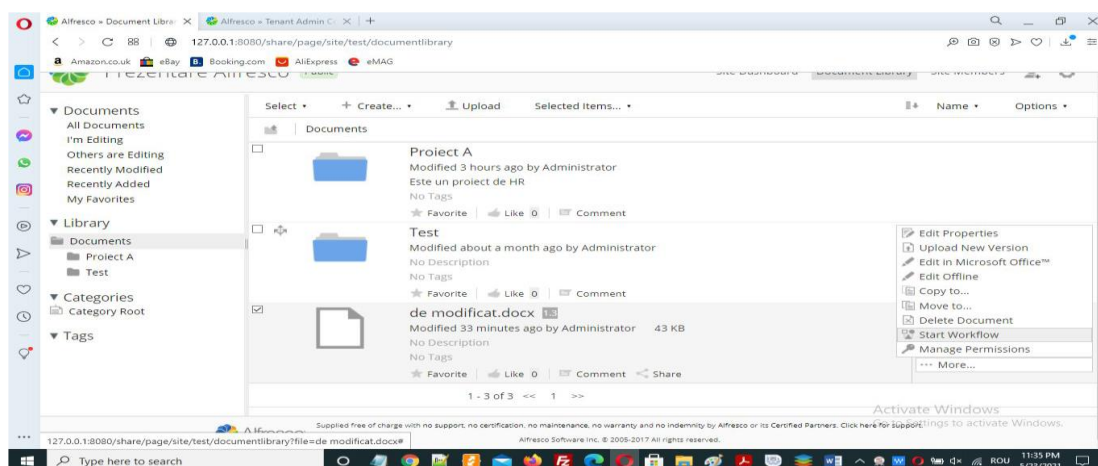

FIGURE 3 - TASKS AND FLOWS IN ALFRESCO
(Source: Adapted from Alfresco Hub, 2024)

Androniceanu, M.

INTEGRATED DOCUMENT MANAGEMENT SYSTEM USING THE ALFRESCO PLATFORM FOR CONTRACTING
COMMUNICATION AND MOBILE PHONE SERVICES

The Start Workflow window opens, where a list of workflows is identified, as seen in Figure 4.
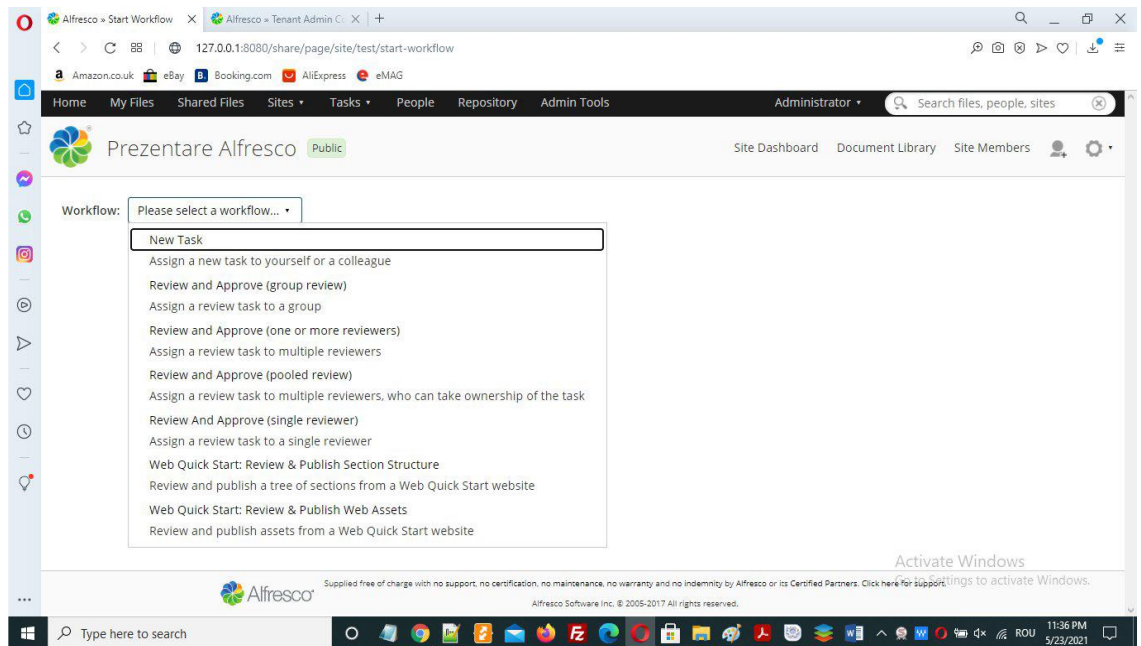

FIGURE 4 - LIST OF WORKFLOWS IN ALFRESCO
(Source: Adapted from Alfresco Hub, 2024)

The figure above shows that the following preconfigured workflows are available:

- New Task;

- Review and Approve (group review);

- Review and Approve (one or more reviewers);

- Review and Approve (pooled review): create approval flow for a group;

- Review and Approve (single reviewer): create approval flow for a single user.

To enter details for the workflow in the General section, select the desired workflow and enter details about that workflow, as seen in Figure 5.
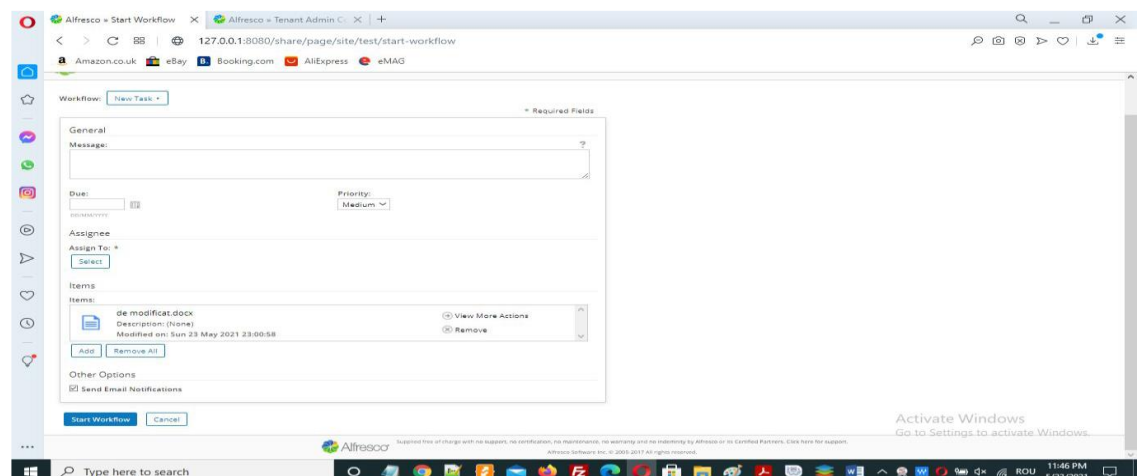
FIGURE 5 - DETAILS ABOUT WORKFLOWS
(Source: Adapted from Alfresco Hub, 2024)

Androniceanu, M.

INTEGRATED DOCUMENT MANAGEMENT SYSTEM USING THE ALFRESCO PLATFORM FOR CONTRACTING
COMMUNICATION AND MOBILE PHONE SERVICES

Then select the users or group to assign the task generated by the workflow. After this, select the Send Email Notifications checkbox to automatically send an email to users each time they are assigned a task. Thus, the new flow is operational and accessible to group members through Click Start Workflow. Assigned tasks appear in two places: Personal Dashboard – My task and My task page. Each task remains assigned until the coordinator completes or reassigns it. The screen opened is shown in Figure 6. The actions available on this page depend on the type of workflow.
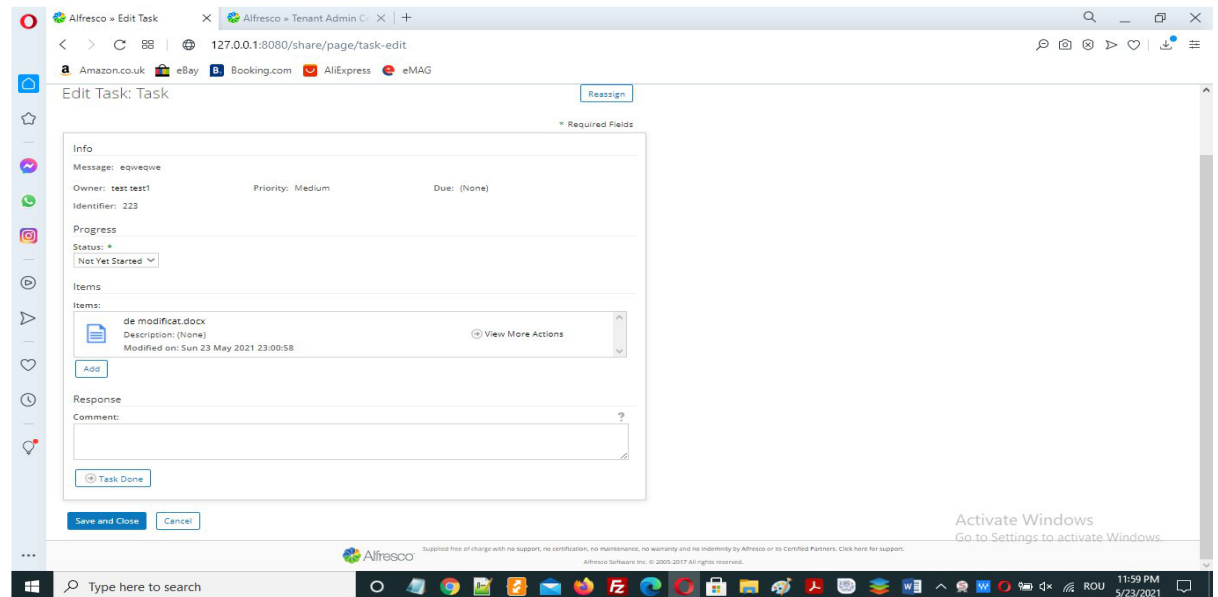
FIGURE 6 - TASK DIVERSITY
(Source: Adapted from Alfresco Hub, 2024)

Thus, the selected task can be managed in one or more of the following ways:

- Update: If the task is in progress but not yet completed;

- Reassign. Click Reassign and use the search field to find a user;

- Approve or Reject: When a task finishes, one can update the task status, add a comment indicating the work done, and then click on any of them Approve or Reject;

- Claim: for those who have responsibility for a common task;

- Release to Pool to send a task to be undertaken by another person;

- Add: select files to add to the task;

- Task Done: it goes back to the user who has started the workflow and the task disappears from the list.

Monitoring work tasks

Monitoring tasks can be done at any time by the platform coordinator. The task can be identified by accessing the commands in Figure 7, and the workflow can be identified through the View Workflow presented in Figure 8.

INTEGRATED DOCUMENT MANAGEMENT SYSTEM USING THE ALFRESCO PLATFORM FOR CONTRACTING
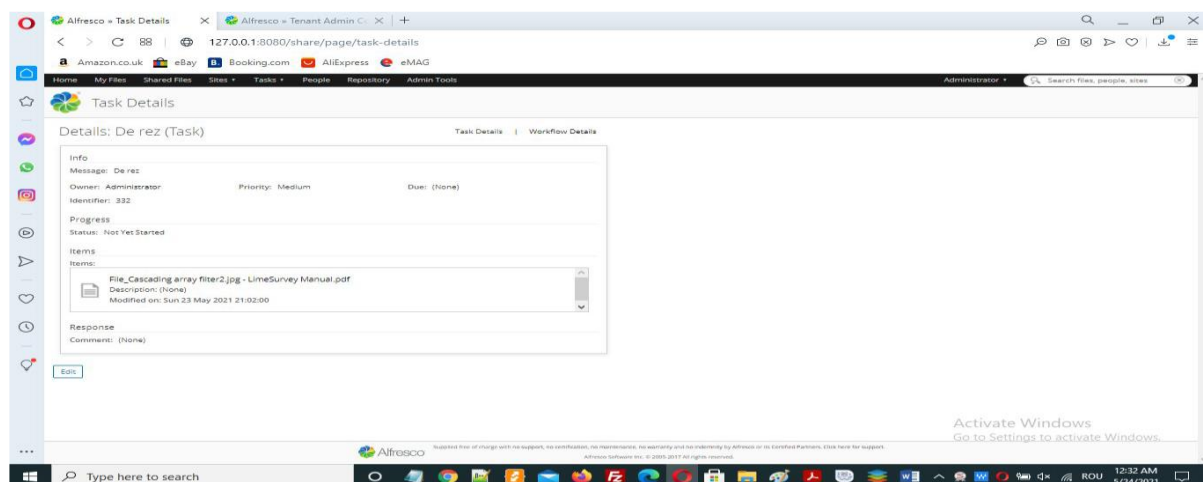COMMUNICATION AND MOBILE PHONE SERVICES

FIGURE 7 - TASKS MONITORING (1)
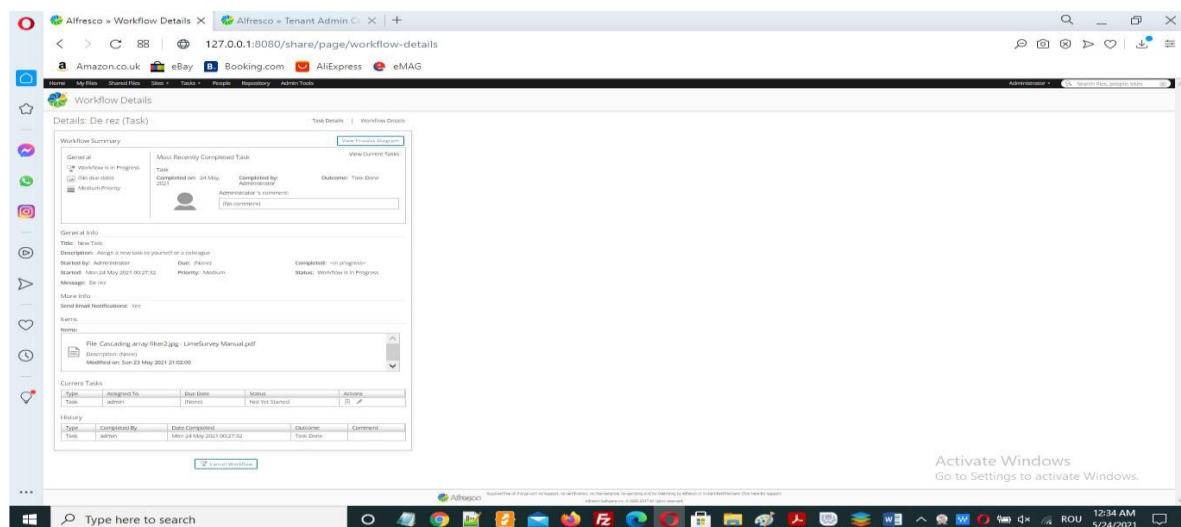(Source: Adapted from Alfresco Hub, 2024)

FIGURE 8 - TASK MONITORING (2)
(Source: Adapted from Alfresco Hub, 2024)

The adjustment and updating of the Alfresco platform's content can be done by the coordinators, as can be seen in Figure 9 and Figure 10.
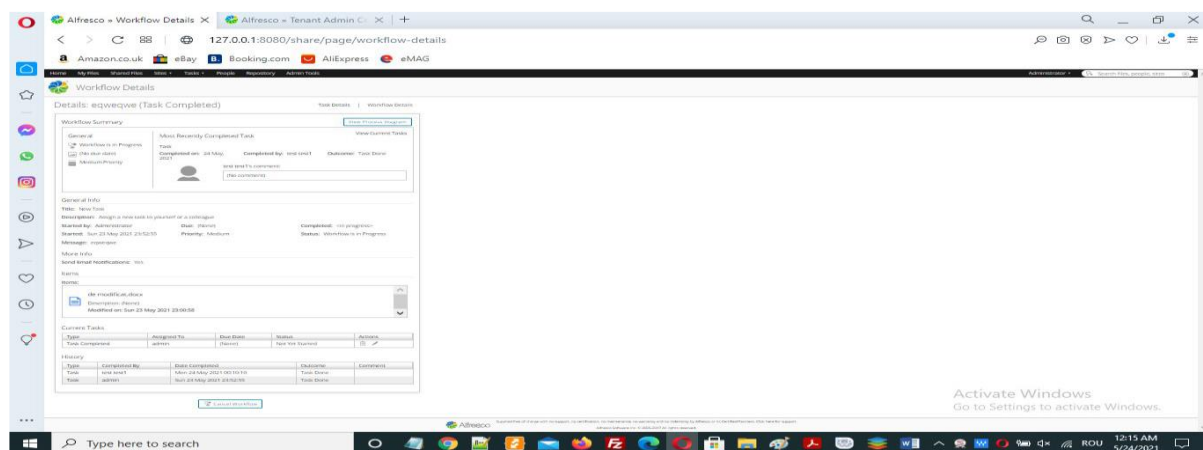

FIGURE 9 - CONTENT UPDATING
(Source: Adapted from Alfresco Hub, 2024)

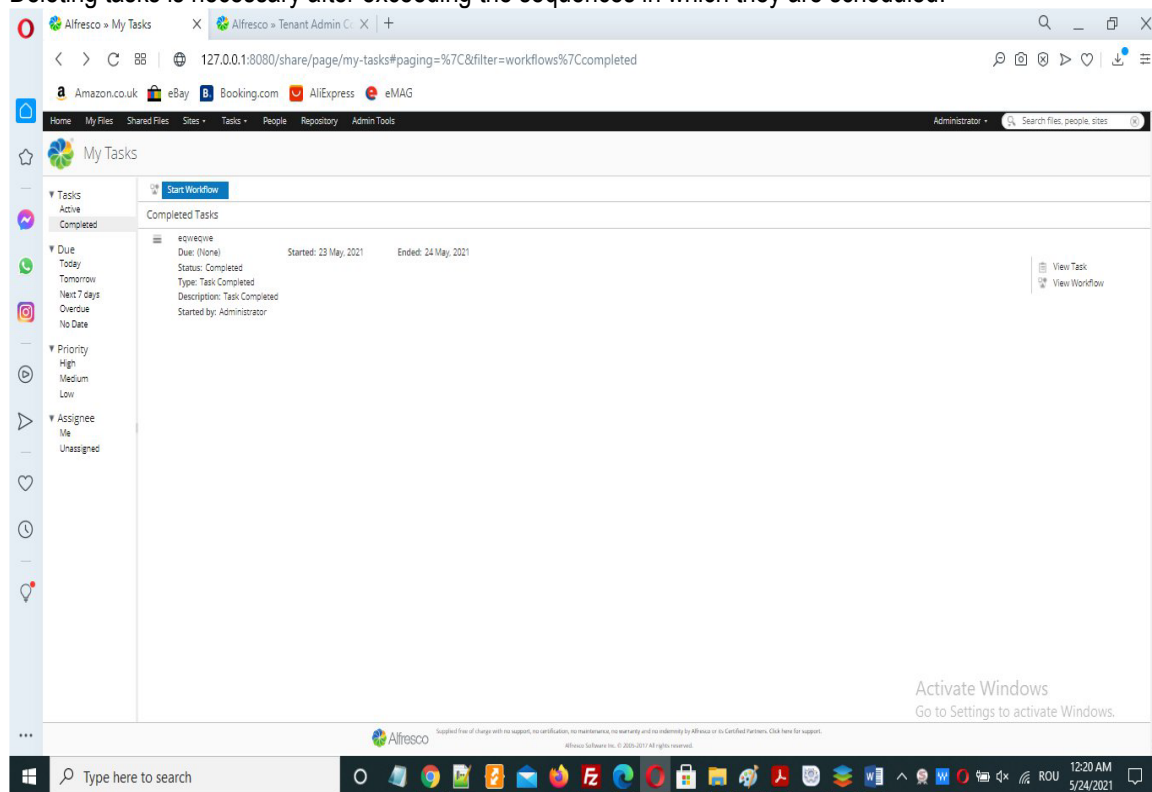Deleting tasks is necessary after exceeding the sequences in which they are scheduled.

FIGURE 10 - CONTENT DELETED
(Source: Adapted from Alfresco Hub, 2024)

Tasks related to the workflow are deleted. They are also removed from the My Tasks dashboard, as can be seen in Figure 11.
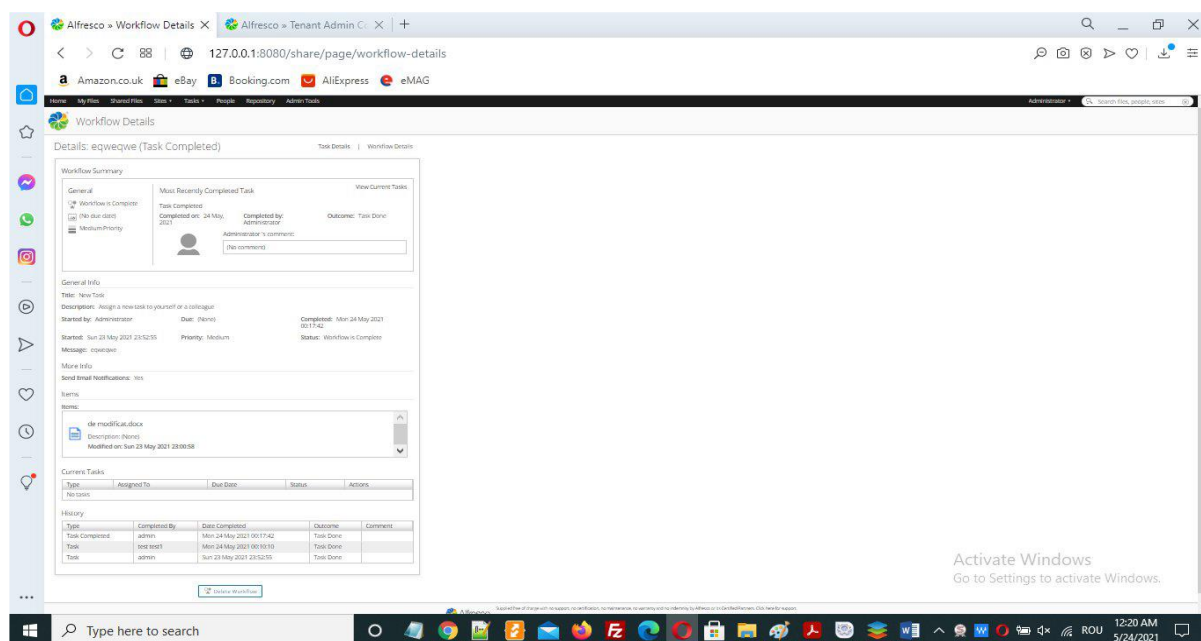

FIGURE 11 - TASKS UPDATING
(Source: Adapted from Alfresco Hub, 2024)

Androniceanu, M.

INTEGRATED DOCUMENT MANAGEMENT SYSTEM USING THE ALFRESCO PLATFORM FOR CONTRACTING
COMMUNICATION AND MOBILE PHONE SERVICES

Training of users

An extensive training process is required at the beginning of the implementation of the Alfresco platform, to help human resources get to know the platform and how to use it and to understand the associated roles in the new platform.

Continuous monitoring and adaptation of the new integrated document management system

Monitoring how the Alfresco platform works is important and necessary. Some current problems can be identified and solved during the monitoring process, while structural ones can be solved after completing an experienced cycle of electronic communications and mobile telephony service. The approach to changes required on the Alfresco platform must always be flexible and open.

Evaluation

Evaluation is necessary to identify benefits, possible problems and improvements.Other activities in parallel with these, equally important, are those of drafting the specifications and, subsequently, concluding a contract with the provider of mobile telephony services.

3. CONCLUSIONS

Document management is an important process because it helps organize, store and manage documents in an efficient and organized way. The Alfresco platform is a software solution for integrated document management that offers numerous benefits. These include: (1) reducing document administration and storage costs: (2) Implementing document management software is an important step towards creating a digital work environment: (3) streamlining internal processes: The document management system ensures the improvement of internal processes in all areas of activity (human resources, accounting and production department), considerably reducing the time spent identifying and verifying source documents; (4) Document accessibility: An efficient document management system allows employees to be more efficient and gives managers a much better overview of the activity, having all the well-organized documents and data necessary for the proper management of the activity; (5) Data security: document management also ensures the security and compliance of files with applicable standards and regulations within each organization.

The integrated document management system using the Alfresco platform has multiple functionalities that facilitate the efficient organization and management of documents, namely the centralization of all documents, the generation of reports and analyzes, the ability to integrate the solution with other systems, the storage of documents in a structured and highly accessible way.

REFERENCES

Alfresco Hub. (2024). Alfresco content services. Retrieved at: https://docs.alfresco.com/content-services/latest/develop/software-architecture

Amin, A. (2022). Analysis of organizational culture in the public sector. *Management Research and Practice*, *14*(4), December, 47-61.

Androniceanu, A. (2024). Artificial intelligence in administration and public management. *Administratie si Management Public*, 42, 99-114. https://doi.org/10.24818/amp/2023.42-06

Androniceanu, A., & Georgescu, I. (2023). Public administration digitalization and government effectiveness in EU countries. *Central European Public Administration Review*, *21*(1), 7-30. https://doi.org/10.17573/cepar.2023.1.01

Androniceanu, A. (2023). The new trends of digital transformation and artificial intelligence in public administration. *Administratie si Management Public*, 40, 147-155. https://doi.org/10.24818/amp/2023.40-09

Androniceanu, M.

INTEGRATED DOCUMENT MANAGEMENT SYSTEM USING THE ALFRESCO PLATFORM FOR CONTRACTING
COMMUNICATION AND MOBILE PHONE SERVICES

Androniceanu, A., Georgescu, I., & Sabie, O.-M. (2022). The impact of digitalization on public administration, economic development, and well-being in the EU countries. *Central European Public Administration Review*, 20(1), pp. 7–29.

Colesca, S.E. (2009). Understanding Trust in e-Government. *Economics of Engineering Decisions*, *63*(3), 7-15.

Cumpa, C. O., Bendezú, A. R., & Jiménez, H. J. B. (2023). The impact of document management using good practices: a literature review. *International Journal of Professional Business Review: Int. J. Prof. Bus. Rev.*, *8*(11), 10.

Dwarika, N. (2023). *Electronic contract challenges of consumers in the Durban area and the implications of selected consumer legislation from a fairness-based perspective* (Doctoral dissertation).

Fayyad, M., Al-Sinnawi, A. R., & Al-Nazir, R. (2023). Contractual imbalance in mobile service contracts during the contract execution, a comparative study. *International Journal of Innovation, Creativity and Change*, *17*(2), 212–247.

Flinchbaugh, M., & Pierce, P. (2021). Biz of digital—transitioning to a new IR platform. *Against the Grain*, *31*(6), 31.

Huang, F., Yang, H., Tao, J., & Zhu, Q. (2020). Universal workflow-based high performance geo-computation service chain platform. *Big Earth Data*, *4*(4), 409-434.

Jordan, S., Zabukovšek, S. S., & Klančnik, I. Š. (2022). Document Management System–A Way to Digital Transformation. *Naše gospodarstvo/Our economy*, *68*(2), 43-54.

Lazaroiu, G., Androniceanu, A., Grecu, I.,; Grecu, G. Negurita, O. (2022). Artificial intelligence-based decision-making algorithms, Internet of Things sensing networks, and sustainable cyber-physical management systems in big data-driven cognitive manufacturing. *Oeconomia Copernicana*, 13(4), 1047-1080. DOI: 10.24136/oc.2022.030.

López, F. M. S., Delgado, J. M. P., De la Cruz, E. G. S., & Cáceres, E. L. (2021, August). Performance-based Software Architecture Design and Blockchain as a Service for Peruvian E-government. In *2021 IEEE 12th International Conference on Software Engineering and Service Science (ICSESS)* (pp. 1-5). IEEE.

Nica, E., Androniceanu, A., Sabie, O.-M., and Mișa, A. (2023). Generative artificial intelligence and workplace tracking systems, synthetic training data, and computer-based teamwork simulations in 3D immersive spaces, *Analysis and Metaphysics,* 22, 24–42. doi: 10.22381/am2220232.

Orlikowski, W. J., & Hofman, J. D. (1997). An improvisational model for change management: The case of groupware technologies. *MIT Sloan Management Review*.

Polyzos, S & Tsiotas, D (2023). Interregional transport infrastructures and regional development: a methodological approach. *Theoretical and Empirical Researches in Urban Management*, *18*(2), May, 5-31.

Payne, D., Trumbach, C., & Soharu, R. (2023). The values change management cycle: Ethical change management. *Journal of business ethics*, *188*(3), 429-440.

Phillips, J., & Klein, J. D. (2023). Change management: From theory to practice. *TechTrends*, *67*(1), 189-197.

Sambetbayeva, M., Kuspanova, I., Yerimbetova, A., Serikbayeva, S., & Bauyrzhanova, S. (2022). Development of Intelligent Electronic Document Management System Model Based on Machine Learning Methods. *Eastern-European Journal of Enterprise Technologies*, *1*(2), 115.

Sancak, I. E. (2023). Change management in sustainability transformation: A model for business organizations. *Journal of Environmental Management*, *330*, 117165.

Sternad Zabukovšek, S., Jordan, S., & Bobek, S. (2023). Managing Document Management Systems' Life Cycle in Relation to an Organization's Maturity for Digital Transformation. *Sustainability*, *15*(21), 15212.

Sundaresan, S., & Zhang, Z. (2022). AI-enabled knowledge sharing and learning: redesigning roles and processes. *International journal of organizational analysis*, *30*(4), 983-999.

Sveningsson, S., & Sörgärde, N. (2023). *Managing change in organizations*. SAGE Publications Limited.