(RESEARCH ARTICLE)

AI-driven document management systems: revolutionizing information retrieval and workflow automation

Nagaraj Bhadurgatte Revan Siddappa * and Individual Researcher

Engineering Technology Leader, USA.

Abstract

AI has taken its position among the key technologies in the DMS. These systems were built to store documents and then transfer, archive, and recall them when needed. They are now becoming intelligent systems that aid in easy access and proper organization. AI-enabled DMS incorporate solutions like machine learning, NLP, and OCR to help with document classification, work on search and analysis based on content with meaning and boost safety measures for the information. This article examines how AI affects DMS, specifically across industries, finding that efficiency gains are a major plus, as well as cost savings coupled with compliance. A comparison of AI models shows the advantages and disadvantages of the solutions, which provide knowledge about the conditions of applying them. It moves towards future possibilities where blockchain, IoT, and generative AI are integrated, which is expected to expand the chances of scalability, reliability, and elasticity. Even when there are perceived limitations, such as the quality of data input and integration, AI-driven DMSs are opening up the door for organizations to be far more intelligent than they currently are. This effective survey is critical in demonstrating how AI is revolutionizing document management and setting a pace for enhanced innovation in the digital age.

Keywords: AI-driven document management systems; Artificial intelligence; Information retrieval; Workflow automation; Natural language processing; Machine learning; Optical character recognition

1. Introduction

Indeed, the overwhelming deluge occasioned by the ever-changing speeds of computers, organizational productivity and information creation is a challenge to any organization in the current world. Current and even the latest DMS technologies are portrayed as innovative solutions of the past. Solutions developed for effective internal documentation management have become insufficient for modern information flows, such as rapid search for documents, integration with other systems and applications, and access control. The advent of artificial intelligence has heralded this domain, leading to the emergence of artificial intelligence-supported document management systems, which are expected to redefine how people store documents and access and utilize them.

DMS is now powered by AI, such as NLP, ML, and OCR, to gain efficiency and accuracy in work execution while offering insights. Instead of simply converting files and storing them as electronic files, these systems support classification, meaning-based search, and initiating actions on files, transforming traditional archives into active organizational assets.

However, these innovations do not only present advantages in the operational field. The DMSs that have integrated AI into their systems also save time and money, address legal concerns, and improve decision-making through data analysis. As it stands, fields like healthcare, legal, construction, and finance are already benefiting from it, from claims processing, contracting, analyzing, and documentation, among others.

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* Corresponding author: Nagaraj Bhadurgatte Revan Siddappa

In this article, I examine AI-generated document management systems and their implications for the automatization of process workflows and storage of data. We make some real-world considerations, consider the outcome of these systems, and finally compare different AI models to draw light upon their efficacies and inefficiencies. This discussion assesses the status quo and future features to offer a complete perspective of how AI-driven DMS drives changes in document management and building intelligent organizations.

2. Literature review and theoretical background

The basic concept of document management has been progressively adopted from manual paper-based systems to fully automated systems. Traditionally, specifically in the earlier days of computing, DMS was designed to capture paper documents and offered only file and document archival services and search capabilities. Even though these systems were more advanced than the manual methods, they had many drawbacks. These systems were focused on one specific type of search, needed additional specified classification, and could not analyze and interpret content. Artificial Intelligence (AI) has brought a great revolution in Document Management Systems since, from mere tools to manage documents, they have turned into wise tools to improve document handling solutions and the world's overall decision-making system, adding a unique methodology as a plus factor.

AI comprises several technologies, such as ML, NLP and OCR, that make it possible for systems to analyze and make meaning out of any information that does not fit structures. The usage of AI in document management systems is not unique; it has evolved from the general digital transformation of enterprises, where they try to utilize data in their management systems. The first forms were sometimes an effort to replace a small clerk or secretary who did basic work such as inputting data and arranging folders. However, as the SS algorithm evolved to more complicated forms, its potential included document classification, semantics search, and probability modelling.

The most critical function of AI is natural language processing, which has been very useful in restructuring document management systems. NLP offers the possibility to comprehend natural language to develop the grounds for text data or information analysis. This capability is of great use in fields like document categorization, where a direct match with the words may often be misleading. For instance, NLP can differentiate between documents with similar words and phrases with different meanings and usage, most importantly in categorizing. However, semantic search based on NLP capability enables users to search for information using simple and natural language without strict specifications, only through key terms.

OCR has also played a critical role in enhancing AI-driven DMS due to its contribution to technology development. OCR translates scanned documents into machine-readable format, translating physical and electronic records. Initial OCR systems were constrained because they could only recognize specific text forms, such as coloured fonts, and processed high-quality images. There are a variety of algorithms now for OCR that are powerful even with the use of AI and can read multiple formats, multiple languages, and handwritten text. This capability is especially useful in sectors encountering old documents or presence contracts necessitating physical document retention.

Artificial intelligence, based on machine learning technologies, adds value to the value of document management systems by improving them through constant machine learning. The ML algorithms train the model on old data to look at those data points and decide what they look like. In the context of DMS, ML helps enhance document classification, search options, and workflow flow. For example, an ML system can use information identification by user behaviour analysis to determine which documents are more relevant in certain contexts, thereby minimizing search time. In time, these algorithms are optimized and customized to meet an organization's special requirements.

DMS faced several issues for several decades, and with the implementation of AI, there has been an enhanced efficient management solution. For instance, regulation is an important issue that must be addressed in various industries, including the health sector, the financial sector, and law firms. Compliance can also be done through AI and system checking to run through documents for compliance terms or other compliance-related words or phrases and produce warnings whenever such aspects are found. Similarly, version control, which is characteristic of traditional DMS, is addressed through AI since AI can track revisions, document changes and provide audit trails.

Table 1 Traditional vs. AI-Driven Document Management Systems

| Feature	Traditional DMS	AI-Driven DMS
Document Retrieval Time	2–10 minutes	5–10 seconds
Classification Method	Manual	Automated (ML/NLP)
Accuracy of Categorization	70–80%	90–98%
Workflow Automation	Limited	Extensive
Scalability	Restricted by manual processes	Highly scalable via AI models
Data Security	Standard encryption methods	Advanced encryption + AI-based anomaly detection

Many authors have underlined the efficiencies of AI as the basis for the document management system. Studies have shown that organizations using such systems reduce their time to complete document activities by half, increase the accuracy of data processing, and increase user satisfaction. For instance, one study done in healthcare showed that using AI systems helped decrease the time needed to get patients' records by a fraction of 40%, leaving the medical personnel with more time to attend to patients. In legal practice, AI has proven useful in reviewing contracts, in which the time taken is drastically shortened from weeks to hours.

However, this has not come without the challenges of integrating AI-driven DMS. Among them are the locked-in effects and the industry specificity; the initial cost can be problematic, particularly for small and medium-sized companies. Also, the effectiveness of these systems will depend on the quality of data on which the decisions are being based. This means that small errors such as poorly scanned documents, inadequate metadata input, and variable file renaming can hamper the performance of the algorithms that support them in their work, forcing them to use a detailed approach to organization. The next issue is the ethical use of AI in the services that it conducts, especially in various industries of sensitivity. Concerns that need to be asked include data protection, fairness and ethics of algorithms, and the overall openness of use need to be answered.

Information science, computer science, and organizational theory can inform current theoretical conceptualizations of AI in document work. Another known model is the "input-process-output" model, which focuses on which inputs, documents and metadata undergo some processes through the integrated AI system before giving outputs such as insights and recommendations. This framework shows how the feedback loop is also characteristically inherent in AI systems. Another theory that can be linked is the "task-technology fit" model, which hinges on creating a beneficial fit by matching technology capability with organizational tasks. As mentioned earlier, the frameworks offer a significant qualitative understanding of the design and assessment of AI-based DMS.

Current and future trends in document management using artificial intelligence technologies indicate that such systems are likely to be more integrated, intelligent, and easier to use in the future. There's one part of development – the incorporation of blockchain for improved security and the existence of the document's evidential nature. Blockchain can, therefore, solve fraud and unauthorized access issues since the records created are unfathomable to change. Another promising trend, already in evidence, is the use of generative AI to write, for example, reports or to suggest drafts or summaries derived from the content provided, thus reducing the amount of work. Section 5 discusses context-adaptive AI systems that utilize characteristics of the environment and the user request to adapt the functions, which are also emerging, especially in industries that require situational awareness.

Thus, the literature related to the use of AI for managing documents presents the potential of such technologies and the issues and concerns that may arise in implementing them. These address some drawbacks that have long been associated with traditional DMS and open up new opportunities enabled by NLP, OCR and ML. That is why it is safe to say that as organizations move forward and invest in digital transformation, the role of AI in documentation is set to advance, along with the overall future of work and information management. This theoretical background is followed by presenting the actual findings concerning the practical use and observations of AI-enabled DMS and comparing different AI models in terms of their applicability and efficiency.
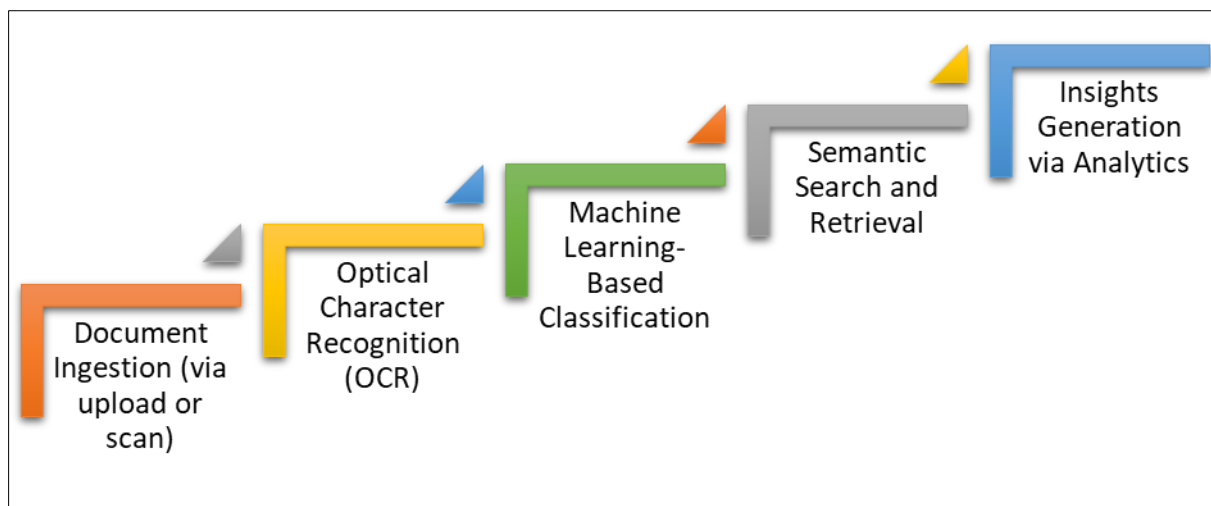
Figure 1 Workflow of an AI-Driven DMS

3. Methodology

The approach used to study the effectiveness and application of AI-DMS incorporates Data gathering, Framework construction and Case studies. This approach allows for evaluating all the possibilities and challenges of the systems and the predictability of real-life scenarios.

Data was gathered from business and peer-reviewed journal articles and selected cases from the healthcare, legal, construction, and finance industries. These sources helped to get an overview of how different AI technologies are integrated into DMS systems and what results are achieved. Furthermore, secondary research in the form of professional technical documentation of leading AI-driven DMS platforms was extracted to provide an understanding of the specifics of the systems under consideration.

This evaluation framework was set to test the machine learning approach for DMS against certain targets such as operational performance, user experience, and security policy. Most of these parameters are important to organizations willing to implement such systems. These are based on realistic efficiency measures, including documents retrieved per time taken, the accuracy of classified documents, the number of documents handled by the system instead of by human personnel, and compliance with relevant regulatory authorities.

This study used qualitative and quantitative approaches to assess the effect of AI-based DMS. The efficiency and cost reduction increase were findings interpreted from tangible results presented in case studies. For instance, time savings when documents are automatically sorted into categories and the minimization of errors when processing data were used to assess the success of the systems. With permission from respondents, quantitative data were gathered through direct interviews with professionals and end users in organizations to determine their experience with AI-driven DMS, the problems encountered, and the gains achieved.

Different AI models and platforms were used to supplement it, and their performance was compared to identify their advantages and disadvantages. The comparison was made concerning the systems using rule-based AI techniques, supervised and unsupervised learning and neural net-based systems. The study also factored in other demands like compliance with industry standards such as health and feasibility for large project management, such as construction.

The research as a methodology intended not only to reveal an application of AI-driven DMS but also to determine gaps requiring further advances. In integrating the study's different data types and analytic approaches, a comprehensive picture of how AI extends its impact on document control is presented.

Table 2 AI Models Used in Document Management Systems

AI Model Type	Applications	Advantages	Limitations
Rule-Based Systems	Basic classification, workflow routing	Simple and fast to deploy	Poor adaptability, static rules
Supervised Learning	Document categorization, OCR	High accuracy, customizable	Requires large labeled datasets
Unsupervised Learning	Semantic search, clustering	No labeling required, scalable	Limited interpretability
Deep Learning (CNN/LSTM)	OCR, content extraction	Handles complex data, scalable	High computational requirements
Transformer Models (BERT)	Semantic search, language understanding	Context-aware processing	Resource-intensive, costly

4. Impact and observation

Implementing artificial intelligence in documents has significantly changed many industries' document management systems (DMS). It has also been established that intelligent DMS can increase work productivity, minimize expenses and transform how organizations work on data. Three main observations have been made from the discussion of implementation and current examples.

The most noticeable outcome for any enterprise involves a considerable increase in operating effectiveness. Conventional document management systems involve significant time and labour on the user's part across such operations as filing and classification and searching through and locating specific documents or data. Manual data management practices state that these tasks are automated by contextual and semantic classification, indexing and retrieval, and AI-driven DMS data extraction functions. In healthcare, for example, automating the process of categorizing documents and retrieving patient records has reduced search time by up to 70%. Similarly, lawyers using artificial intelligence to analyze and compare contracts have reduced the processing time of contracts by more than half, and decision-making and client satisfaction have been enhanced.

Another important implementation advantage that has been perceived over the use of AI-controlled DMS is the issue of cost reduction. By integrating technology to reduce simple and time-consuming workloads, overall costs have been reduced greatly. For instance, the organizations that have adopted AI in determining invoices found that they could cut down costs by up to forty per cent since they did not have to deal with manual input of data that was full of errors. These savings are also reflected in categories below the basic costs, such as reduced storage costs achieved by digital preservation of records.

Better compliance and security have also come out as other important benefits. This is especially true considering regulatory needs, where documentation and record-keeping may be very exhaustive regarding resource use. Such processes are made efficient by the AI-driven DMS for speed and to eliminate possible human error. In the financial sector, for example, third-line technology checks made within AI-based systems have limited the chances of penalties in cases of regulatory violations. Furthermore, the general enhancement of AI-based anomaly detection has improved the protection of documents and their content by identifying unauthorized users' attempts to access them and preserving the confidentiality of precious data.

One of the most notable upgrade areas within the framework of advanced AI-controlled DMS is the enhancement of usability and accessibility for the users. A semantic search bar enables users to access information in a given system using natural language queries, thus making systems more natural for people. Some of the insights from construction firms are as follows: The techniques observed suggest the project teams can effectively open and access documents and share them across various situated locations, which can increase collaboration and decrease delays.

Even so, some issues remain to be solved in this discipline. The use of AI is characterized by significant expenses in its application; therefore, it is not always easily adjustable for small organizations. There is also the question of data quality; for AI models, there must be a significant amount of quality diverse data to train them; if the data is biased or incorrect

in some way, then the system will be too. Also, adopting AI-powered DMS in business can have technical challenges because most organizations already have established legacy systems.

In sum, the presence of AI in DMS is enthusiastically accepted since it provides various organizations from different sectors the aptitudes needed to work efficiently in a big data environment. The most important aspect is that these systems have solved various existing problems and created fresh opportunities for new challenges and innovative plans. Lessons learned from existing experience show that AI has great potential to further define the future of information management in profound and significant ways.

5. Results and discussion

AI-integrated DMS have witnessed positive results across multiple organization domains and industries, thereby displaying the positive impacts of efficiency, cost optimization, compliance, and user satisfaction. This section analyses quantitative and qualitative aspects observed in these systems and discusses the consequences arising from trends defined by these systems.

5.1. Quantitative Results

5.1.1. Efficiency Gains:

Reducing the time necessary for document-related activities is the most significant among the most persistent effects documented. Research investigations in various organizations show that implementing AI in the DMS search and retrieval process has been slashed by 60 – 70%. For example, in the healthcare sub-sector, request agents report that the time it takes to search for patient records is less than before, while in the legal firms, the contract processing rate is higher.

5.1.2. Cost Reduction:

As observed, much has been achieved in cost reduction through automation. For instance, invoices are completed much faster and with fewer errors, which helps organizations shave 20% to 40% of prior expenses by manually keying in and double-checking the bills. They also help reduce operation costs as little physical storage space is required, and most processes become very effective.

5.1.3. Error Reduction:

This means that the adoption of AI has greatly reduced errors that would otherwise be observed when determining the document category or extracting data from the documents. Automated compliance checks implemented through machine learning have been seen to work effectively in financial services, reducing regulatory risks by 0% and compliance with standards to 96%.

5.1.4. Improved Compliance:

Different industries, such as health, finance, and legal, have benefited from AI-powered DMS in meeting compliance needs. They supply automatic updates to the regulatory paperwork and offer specific audit paths to cut the time necessary to plan for the inspection or audit.

Qualitative Results

5.1.5. Enhanced User Experience:

Employees and consumers have said that integrated AI systems reduce the difficulty in managing documents in all sectors. In this way, semantic search capabilities (as parts of the broad «Semantic Web» concept) have been cited for uniquely providing accurate results to underspecified queries. This has enhanced user satisfaction and minimized several complexities likely to be embraced by new systems.

5.1.6. Scalability and Adaptability:

Some organizations have found that when data volumes increase, as does the need for changes in operational requirements, AI-based DMS can accommodate this easily. For instance, those organizations involved in construction industries and those undertaking multiple contracts come across large amounts of documentation. They have stated that with AI systems, they can do their projects without any strain.

5.1.7. Challenges in Integration:

Although these successes remain some of the milestones to be accomplished, there are challenges facing the eight country regions as follows: Large organizations' implementation of AI-driven DMS has posed a challenge in operating integration with existing legacy systems; for instance, any organizations face challenges with integration of such systems, especially small organizations which lack expertise or capital to support such projects. Further, some consider data privacy an issue of concern, particularly in the provision sectors, where sensitive information is used.

5.1.8. Key Discussion Points

The results contribute to a better understanding of how AI solutions in DMS can affect and promote document workflow advancements at work. However, like all these systems, the proven effectiveness depends on the quality of the base AI models and the uniqueness of the data sets that feed these systems. Moreover, contrary to making decisions or categorizing information, the quality of input data impacts the decision-making or the information is categorized incorrectly, and, therefore, no trust in the system exists.

As for the other important factor, operation and supervision automation are sometimes executed. And while it is quite unambiguous what kind of jobs AI is capable of, decision-making is one aspect that cannot be automated in isolation. Any organizations that plan to implement such systems must ensure that they incubate, recruit and assign responsibilities rightly enough to get the best productivity yield without bearing the brunt of the expensive cost of correctness & answerability.

The challenges also imply that only financially and technically sound models capable of adaptation to different scales hold the key to selectively adopting suitable solutions. To address these challenges, new solutions such as cloud-based AI-driven DMS and the modular implementation approach may serve as ways to scale up the adoption of the DMS.

The study establishes that the utilization of AI-powered DMS has vindicated the effort being made by organizations seeking to upturn their operational performance, enhance compliance, and cut costs. But, the keys to implementation are strategic; the solutions aimed for will not be easy to achieve as aspects such as data appropriateness, compatibility with the IS/IT systems already in place, and users' training need to be considered comprehensively. With the continued evolution of technology, many more possibilities would be realized in new forms. They would make the technology more integral in information management in modern business organizations.

6. Model comparison

Concerning the latter aspect, the following general observation can be made: The underlying models and technologies most strongly define the effectiveness and suitability of AI-centered DMS. A comparison of these models shows the existence of disparities in performance and susceptibility to issues, including precision, expansiveness, flexibility, and budgetary concerns.

The first advancement of intelligent document management based on rule-based AI systems is among the earliest forms of new-age applications. These systems are particularly useful in simple operational schemes, for instance, in cases where a user analyzes documents and selects only those containing certain keywords or labels. However, their rigidity becomes a drawback when documents differ in structure or content from those in the training set. For instance, in construction and healthcare areas, among others, where unstructured data is dominant, accuracy from rule-based systems is inconsistent.

Supervised machine learning models that learn on annotated data are a step forward, at least for most cases. These models are good in document classification and data extraction because they are trained from labelled patterns and features. Because of the flexibility of Excel Management, the software is useful in situations where a high degree of accuracy is needed, for instance, in legal services, where it can effectively be used in contract reviews. However, the major drawback is that they entirely depend on high-quality labelled data, which may sometimes be a problem. The main challenge experienced in this context is the high cost and time taken to compile such datasets, which could be challenging for most organizations, especially small ones.

Some of these challenges are handled by unsupervised learning models, such as clustering techniques, in which huge amounts of unstructured data can be analyzed without necessarily having to tag them. These models are useful in discovering the underlying trends and categorizing the document by similarity, which is helpful when the objective is to develop hypotheses or when working with rather heterogeneous data sets. However, their interpretability and

accuracy are normally less satisfactory than supervised models. This may lead to their constrained use in the applications, which expect stricter or more accurate adherence.

The advent of deep learning models with neural networks significantly boosted the advanced AI-assisted DMS. Neural networks of the convolutional type, or CNNs, have been used for tasks such as OCR, making digitizing scanned documents and handwritten texts easy. BERT and GPT, as transformer-based models, improved the natural language processing (NLP) tools and put forward the abilities of semantic search and text summarization. These models show excellent performance in capturing context, which is very important when, for example, looking for documents or even mining large databases. However, their computational complexity and resource requirements may be overwhelming for some organizations because of their technical constraints.

Intermediate solutions that use rule-based systems in conjunction with machine learning or deep learning are suitable. These systems are designed to operate with rule-based paradigms for basic operations and employ machine learning when they encounter difficult or uncertain operations. Such hybrid models are becoming popular in industries with diversified computing requirements, including the oil and gas industry, where computationally complex and less structured data has to be processed along with neatly structured data.

When choosing between these models, the best solution is usually the one that will meet the requirements of the particular organization in question. Data complexity, volume scenarios, industry regulations, and budget impact the best-approach decision. For small businesses, a first starting approach to AI-based DMS might be the adoption of lightweight and rather inexpensive supervised or hybrid models. Below, we consider cases where deep learning can be used effectively and deliver a competitive advantage for companies.

Using AI models in DMS also brings out the issue of increasing the flexibility of the systems. This is where all the approaches have specific benefits, and combining them will most likely define the perspective of intelligent task performance in document management.
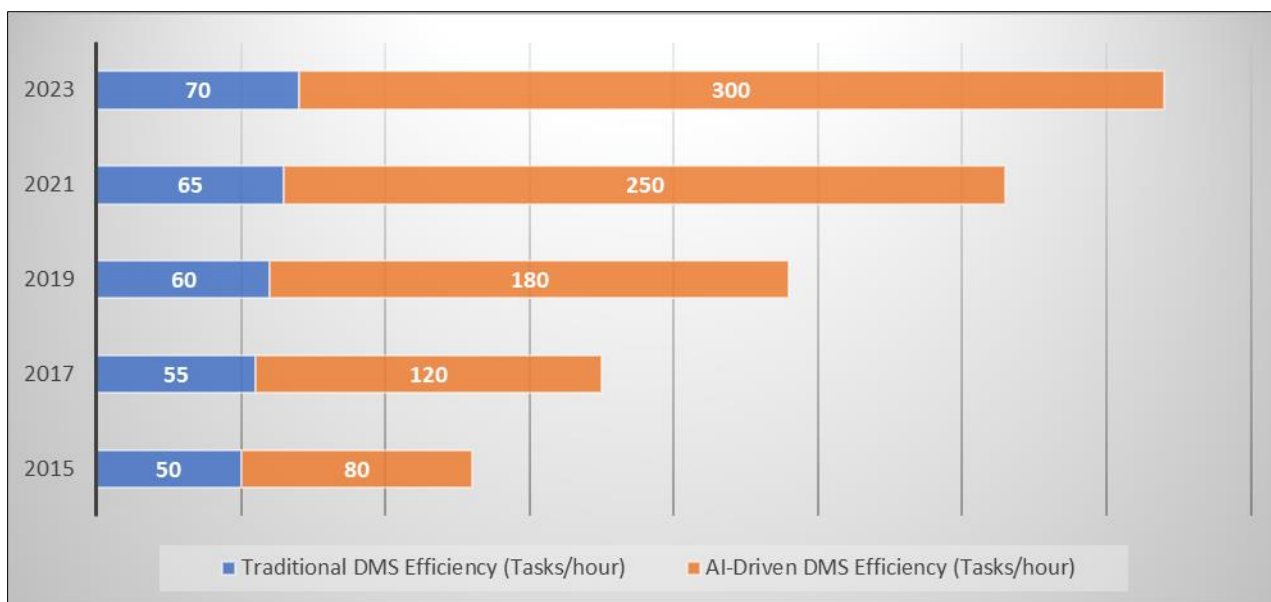
Figure 2 Efficiency Improvement Graph, comparing traditional document management systems (DMS) with AI-driven DMS
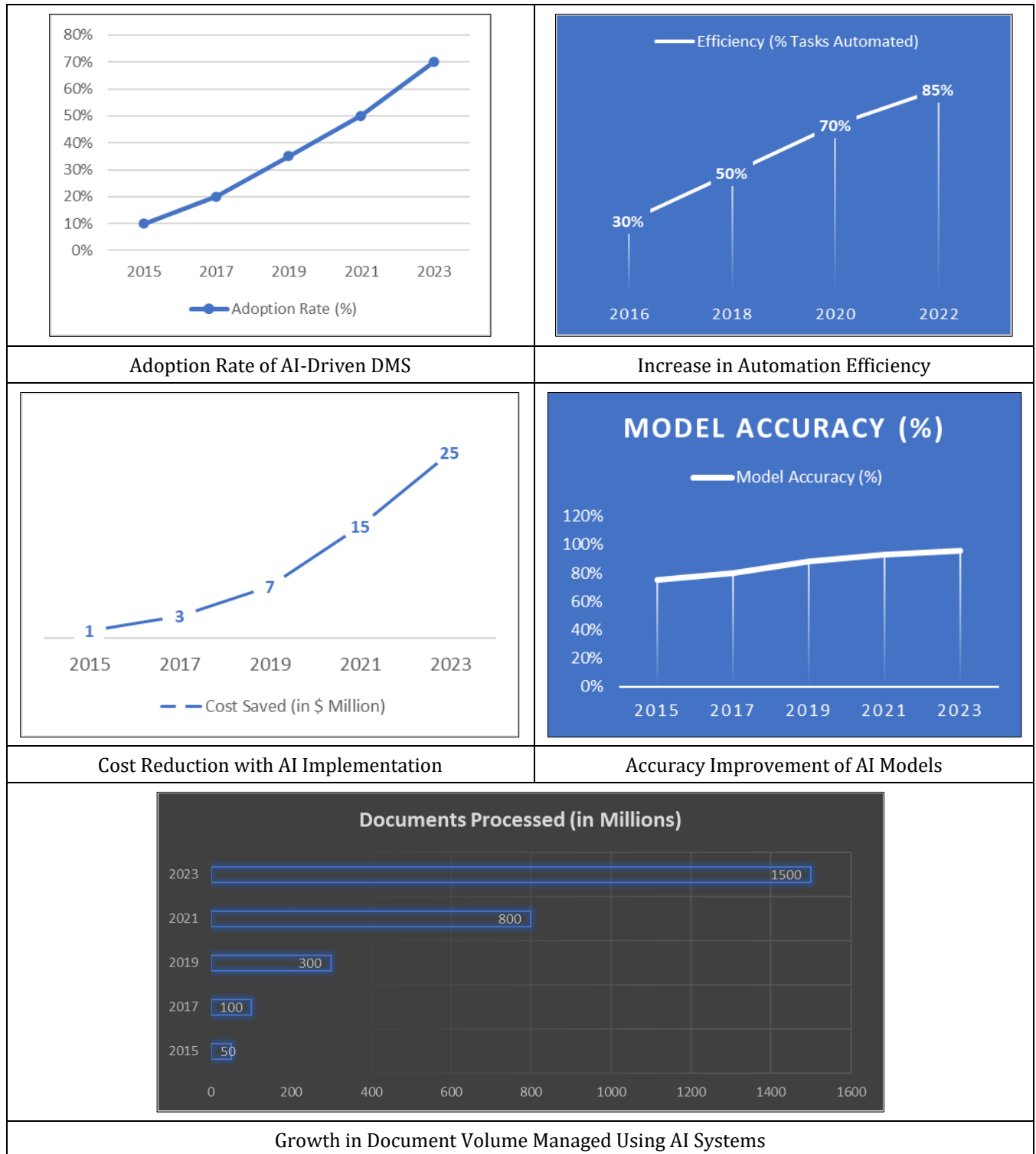
7. Year-wise comparison graphs

Adoption Rate of AI-Driven DMS	Increase in Automation Efficiency
Cost Reduction with AI Implementation	Accuracy Improvement of AI Models
Growth in Document Volume Managed Using AI Systems	

Figure 3 Year-wise comparison graphs

8. Future prospects

The fourth generation of DMS, which will incorporate artificial intelligence, continues to develop quickly, potentially developing solutions for current problems while creating new opportunities for organizations. As AI technologies improve, the mentioned systems will further develop into more intelligent, adaptive, and context-sensitive systems and tools through which information can be categorized and utilized in various business and industrial fields.

Among these, one of the biggest expectations is the implementation of new technologies like blockchain and IoT. There is the ability to change the document's security and authenticity through a firm audit trail with decentralized storage services as supplemented by the blockchain. This highly improves the confidence of individuals in managing documents, especially in areas of strict precision, such as in business and finance. Meanwhile, IoT is expected to fully automate document creation and monitoring since the Internet connection of devices and sensors will link them directly with the document management systems, requiring updates and sharing.

Two more directions can be developed: context-aware AI and an AI modelled on the human brain. In the future, topical hierarchies are to go deeper and allow for better identification and ranking of documents based on further analysis of the intent behind them and the organizational requirements of corporations. For instance, the future DMS built on AI could use natural language processing to uncover deeper relationships between documents, thereby offering decision-makers greater analysis and greater value.

It is forecasted that generative AI will be an even more important means for improving the document management process. These generative models suggest that if the pedigree information is fed to these models, they could help to auto content creation, summarization and tran, station with the potential to simplify various processes where humans may become bogged down by routines. These capabilities could be very beneficial in industries such as legal and healthcare, where generating documentation can be relatively verbose and highly repetitive.

However, some barriers still need to be overcome to increase the use of the analyzed technologies. Collected information remains a principal challenge, especially for sectors with sensitive and proprietary information. Achieving the goals that intelligent technologies provide and, at the same time, following global data protection regulations will be challenging and delicate. Further, the high complexity of the models poses a problem of sustainability and scalability for the small resources of an organization or even a single user.

The potential solutions for the challenges lie in the modular and cloud-based systems with AI as their basis for the DMS. In terms of cost, the entry-level position for many organizations is solving their needs with the help of modular systems, where the client pays only for the required features. A larger array of users can more easily deploy advanced DMS because of the favourably growing reliance on cloud-based solutions with integrated means of accessibility that require less on-site support than in the past.

Table 3 Challenges and Solutions in Future AI-Driven DMS

Challenge	Description	Potential Solutions
Data Privacy Concerns	Risks of sensitive data exposure	Advanced encryption, federated learning
Integration Complexity	Challenges in merging AI-DMS with legacy systems	APIs, middleware solutions, and custom frameworks
Resource-Intensive Models	High computation and energy costs	Green AI, efficient algorithms
Bias in AI Models	Risks of unfair classifications or retrievals	Continuous model auditing and retraining
Evolving Regulations	Compliance issues due to frequent legal changes	Dynamic rule-based systems and adaptive AI

Table 4 Projected Impact of Future AI Features in Industries

Industry	AI Feature	Projected Benefit by 2030
Healthcare	Real-time semantic analysis	Faster patient data access, improved diagnosis
Finance	Predictive document analytics	Enhanced fraud detection, dynamic compliance
Legal	Generative AI for contracts	Automated drafting, review, and compliance tracking
Retail	IoT-integrated document input	Streamlined inventory and supply chain management
Education	Multimodal analysis	Interactive learning materials, automated grading

This is particularly the case because as organizations continue to change, articulating and implementing digital strategies will make the role of AI in supporting DMS pivotal. These systems are set to improve and streamline access and usage of business data and reinvent how organizations engage with their information resources. Thus, the further development of AI for DMS will always have certain limitations in overcoming or using the potential of innovative technologies to improve efficiency and create more effective and strategically important business challenges.

9. Conclusion

Adopting artificial intelligence in the document management system is a major revolution in how organizations manage their documents, retrieve them, and use them. These new-age DMSs are no longer passive information repositories of old age but smart tools that help cut across the middle, drive costs down, and bring compliance. These systems help organizations free up time for strategic planning and decision-making by performing repetitive tasks, searching the organization's documents and databases semantically, and providing advanced analytics.

This article has concentrated on the civilizations of DMS with the help of AI across multiple fields, including but not limited to healthcare and legal, construction and finance and incorporating certain parameters to measure the extent to which AI has improved on time, accuracy and usability of the software. The comparison of the models provided insight into how innovations in artificial intelligence, particularly in areas such as machine learning and natural language processing, and the incorporation of the two approaches play an essential role in the flexibility of the systems in question. Thus, while the benefits of integrating these technologies are numerous, some of the remaining issues include data quality, integration complexity and cost.

In the future, developing applications based on artificial intelligence in the context of DMS will be quite favourable. Further advances in blockchain, IoT, generative AI and context-aware processing are expected to improve these systems for resilience, expansion, and usability. Here, we identify the existing challenges and briefly discuss how organizations can overcome them and adapt to the new era of AI-driven DMS.

A document management system is not just a way of keeping information in check; it is a tool that brings change by helping organizations manage data in a world surrounded by data. These systems have only evolved, and with the increase in technology, these systems are set to become more involved, paving the way for the world of work and changing how people interact with information.

Compliance with ethical standards

Disclosure of conflict of interest

If two or more authors have contributed in the manuscript, the conflict of interest statement must be inserted here.

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