A PAPERLESS OFFICE: A DREAM OR REALITY?

© **Putintseva V., 2023**
Irkutsk State University, Irkutsk

This article discusses the current document management system in Irkutsk Oil Company. The purpose of the paper is to analyze the document management process in the organization and to examine the company's readiness to implement a paperless office. The research is based on the study of the employee's opinions obtained through surveys and interviews. After reviewing literature and analyzing the results, the author comes to the conclusion that the current document flow is unsatisfactory, and the introduction of a paperless office will help the company to enhance work efficiency and reduce costs associated with document work.

Electronic document management plays a significant role in modern office management. The number of documents and paperless office companies is steadily growing. This is due to the development of technologies that provide new opportunities to improve the efficiency of document management. The purpose of this article is to study the effectiveness of document management when switching to a paperless office. The research includes methods such as interviewing employees and the head of the department, as well as analysis and discussion. Also, based on the analysis of this topic, recommendations were developed for the introduction of electronic document management in the company.

Literature review

The concept and features of electronic document management

There is a lot of literature on a paperless office which discusses the concept itself and its features, as well as advantages and disadvantages. Let us first define the notion. A 'paperless', or 'electronic' office is an ideal type of office environment where the computer, not the typewriter or pen and ink, is the main tool to produce documents (Duranti, 2001). Electronic document management has several distinctive characteristics and differs from the traditional form of document system. In particular, a paperless office implies the mass application of new information technologies, the use of specific software and hardware, which helps to reduce the cost of document management and speed it up, makes the work with documents more convenient (Tikhonov, 2005). Larin agrees with these features of the paperless office and believes that its structure is more complex (2001, 137). Thus, we can say that the main differences between electronic and paper document management are automation and the use of modern technologies.

Advantages of a paperless office

Most authors are unanimous, evaluating the paperless office positively. Birman and Trant consider one of the most significant advantages of electronic document management is the quick access of employees to information (1997, 7). Raznikov agrees with this opinion adding that EDM gives the user the opportunity to quickly search for information (2016, 64). Liu and Stork highlight one more advantage — a reduction in the number of accidental errors, which minimize the risk of document loss (2000, 95). Crockett emphasizes another advantage: a paperless office helps simplify document control (1993, 139). Larin agrees that a paperless office gives a great advantage to the head of an organization since it expands his ability to control document flow (2001, 117). One more important benefit, according to Bobyleva, is that the transition to a paperless office will increase the speed of document flow (2018, 17). For example, if a company manages docs in a traditional way, employees spend from 4 to 8 hours working with papers. Electronic document management reduces this time by 2–3 times. Duranti adds the fact that a paperless office reduces the time required for coordination and decision-making since an unlimited number of people can work with the same document at the same time (2001, 205).

Many authors also point out that the introduction of EDM results in cost reduction. For example, Larin believes that a paperless office leads to quite noticeable savings: no costs of courier services, less office space necessary for documents storage, less expenditures arriving premises for archives (2001, 120). Thus, the costs of consumables and logistics are reduced 5–10 times for one document costs, up

to 7 rubles, instead of 40–70 rubles. Crockett draws attention to the fact that due to the transfer of a large volume of documentation into electronic form, 70 % of the paper document flow is reduced, which, in accordance with the requirements, must be stored for a certain number of years (1993, 139). In general, an average office of 500 people uses approximately 100–120 package of paper per month; however, electronic document management can reduce this figure to 70–84 bundles. This advantage of the paperless office will significantly help to improve the environment and reduce deforestation. As a result, there is a release of archival premises and a reduction in the number of employees engaged in unproductive work. Thus, we can say that electronic document management will help the company to increase the efficiency and speed of work.

Disadvantages of a paperless office

Despite the large number of advantages, electronic document management has its drawbacks. For example, it is much more difficult for large companies to implement the system than for medium or small ones (Duranti, 2001). This phenomenon occurs because the more employees there are, the more difficult it is to equip a new workplace for everyone in an electronic space. Also, Crockett writes that training employees in a new document management system is an extremely difficult task for management and requires a lot of time and costs. In addition, such a drawback as changing the main business processes. This not only requires a lot of time and effort, but also the development of new habits among employees, which can also be difficult for the company (Tikhonov, 2005). Another significant drawback is the problem of cyber-attacks and data theft. Databases with important documents can be hacked by hackers, and employee data can be lost. This is a significant problem and requires the creation of a department of programmers who will work on the system security.

Thus, on the one hand, electronic document management improves the speed of employees' work, reduces costs, increases the efficiency and gives the employee more time to perform their main duties. On the other hand, there are significant problems that may affect the implementation of a paperless office in the company. The size of the organization, the number of employees and the complexity of business processes can become an obstacle to the introduction of electronic document management. In addition, this system may be subject to cyber-attacks, which makes it less reliable. Based on this, we can say that this issue should be further considered.

Methods

The paper studied Irkutsk Oil Company, which is engaged in geological exploration, production of hydrocarbons in 52 subsurface areas in Eastern Siberia. Irkutsk Oil Company employs more than 11 thousand people. This organization has facilities for the extraction, preparation, transportation and processing of gas, Irkutsk Polymer Plant, and two helium plants. Now the company uses only paper documents in all departments, which creates significant difficulties for both employees and contractors.

Huge stacks of papers accumulate in the planning and economic department, which are quite difficult to sort and archive in time because of their large number. A similar situation is observed in accounting, finance department and others. It is also worth noting that when transferring documents between employees, significant difficulties arise, since departments are located on different floors. In addition, employees manually stamp and seal documents, which takes a lot of time which could be spent on solving more significant problems.

To assess the need for the introduction of the electronic document management system in Irkutsk Oil Company, the following methods were used: a survey, an interview, as well as content analysis of primary information. These methods helped to achieve more objectivity and collect both quantitative and qualitative data.

The survey enabled to get more information and quantitative data about document management and to find out the opinion of employees about the need to introduce electronic document management system. The survey consisted of two sets of specific questions for employees and middle managers. For middle managers of the department, the survey touched upon such topics as such as compliance of the existing document management system with modern requirements, satisfaction with the current situation with documents, as well as opinions on the possibility of implementing an electronic document management system. The employee survey included questions about the amount of paper and the time they spend per week on paperwork, as well as opinions about satisfaction with the existing system and the desire to change it.

Besides, in order to obtain qualitative data, a personal interview with the head of the planning and economic department was conducted. It confedered challenges that make it difficult to switch to an electronic system, opportunities to improve existing document management, as well as efficiency and cost reduction thanks to the introduction of electronic document management.

Also, it was important to study the organization's order on the introduction of electronic document management to understand how the company's matches its developed strategy interpretations to switch for a paperless office.

The methods mentioned above helped to obtain accurate and balanced information about the current state and readiness of the document management system in the company and determine the need to change it.

Results

This section discusses the data collected with the help of questionaries, the interwire and content analyses. The survey on the state of the document flow in Irkutsk Oil Company embraced nine respondents. The first part of the survey was related to the current document management system. Figure 1 shows employee dissatisfaction with the document management system in the company. Almost 89 % believe that the document flow is not effective; about 11 % are partially satisfied with the current situation.

Are you satisfied with the document management system in your company?
9 ответов

Legend:
- Satisfied
- Partially satisfied
- Not satisfied
- Not satisfied (Нет)
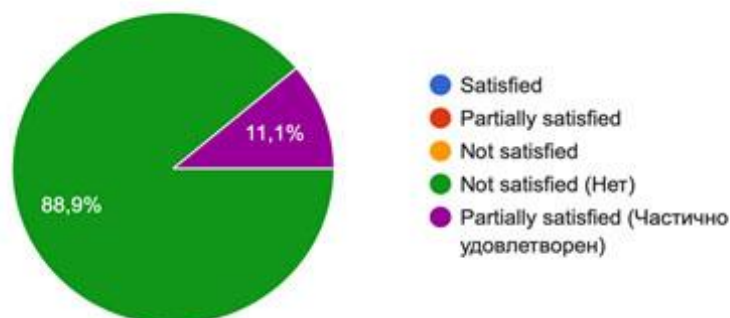- Partially satisfied (Частично удовлетворен)

88,9%
11,1%

Fig. 1. Are you satisfied with the document management system in your company?

The survey also included questions about the amount of time and paper that employees spend on the company's document management system. Most of the employees (66.7 %) spend 3–4 hours a day working with documents. About 22 % spend more than four hours a day on paperwork. About 11 % of employees devote 2–3 hours a day to processing various documents. It was also found that about 33 % of employees spend 2–3 packs of paper a week. The same percentage of employees uses 3–4 packages of paper within one week. About one tenth of employees spend one pack of paper, and 22,2 % more than 4 packs.

The next question focused on the assessment of possible problems faced by employees. According to Figure 2, the «loss of documents» option was the most common; about 78 % of employees noted that they faced this issue during work. Also, such indicators as «low efficiency and long search for documents turned out to have a high value (66,7 %). The paper cost was another common chalenge (55,6 %). Over one third (33,3 %) consider that replacement of documents in case of loss or damage to be an issue too. The least common factors were the lack of sufficient archive storage and the inability to work on the document simultaneously with other employees (22,2 %).

What issues do you face in the current document management system?
9 ответов

- Low efficiency — 6 (66,7 %)
- Loss of documents — 7 (77,8 %)
- Long search for documents — 6 (66,7 %)
- Lack of centralized storage — 2 (22,2 %)
- Inability to work simultaneously — 2 (22,2 %)
- Costs for copies of paper docu... — 5 (55,6 %)
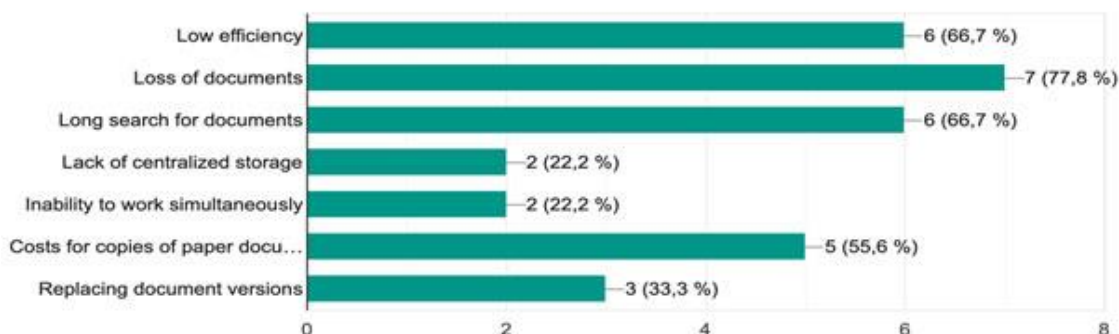- Replacing document versions — 3 (33,3 %)

Fig. 2. What issues do you face in the current document management system?

The next set of questions was aimed at learning how the introduction of electronic document management would affect the company's activities. Answering the question «How will electronic document management affect work efficiency?», the majority of the employees, (77,8 %), believed that the impact would be positive. Also, 22,2 % were not sure what the impact would be appreciable.

The second survey was conducted among the middle managers of the company and was also aimed at finding out the opinion of employees about the document management system. The first part of the survey contained questions related to the current document management system. Figure 3 shows whether the current document management system meets modern requirements. Most of the employees (80 %) were sure that they didn't. Only 10 % of the employees chose the answers «yes» and «not sure».
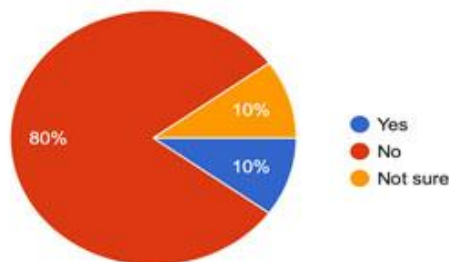
Fig. 3. Does the current document management system in the organization mets modern requirements?

In addition, about 70 % of employees are not satisfied with the current system, and 30 % are not sure.

The next question in the survey aimed to find out whether the introduction of an electronic document management system would help to cope with the constant growth of users and complex business processes. Most of the employees (80 %) answered positively. Also, 10 % of employees chose the answers «no» and «not sure».

Another method used in the research was an interview. The head of the department assessed the current document management system unsatisfactory and mentioned that it didn't meet the current standards of working with documents. The chief economist was confident that the management system should meet modern requirements since the more efficiently employees work with documents, the faster he performs their tasks. Furthermore, the head of the department was confident that the introduction of electronic document management would be able to save employees' time and effort spent on sorting documents accumulated over a month, which will significantly increase efficiency and enable employees to devote more time to the execution of their responsibilities. In addition, the chief economist was sure that from a financial point of view, the introduction of electronic document management would help reduce the company's costs for paper and other consumables. The head also admitted that the introduction of electronic document management was quite slow due to the size of the company, the large volume of documents that need to be transferred to databases, as well as technical problems.

An analysis of the orders on the introduction of electronic document management showed that the company should switch to a paperless office by 2025. Such a long time is due to the fact that the organization has a large number of employees, whose training will take a lot of time.

Thus, most of the employees are not satisfied with the current document management in the company. Moreover, a significant number of the company's staff are confident that the introduction of electronic document management will help to increase the speed of work and improve the efficiency of the company as a whole.

Discussion

The main purpose of this research was to evaluate the current document management system and assess the company's readiness for the introduction of a paperless office.

Both the survey and interview showed that most employees were not satisfied with how the documents are managed in the company. Moreover, a significant number of the company's employees were confident that the introduction of electronic document management would help to increase the speed of work and improve the efficiency of the company as a whole.

In particular, employees reported that it was difficult for them to work with paper documents. An electronic document system could solve this problem since one of its advantages is making paperwork easier (Crockett, 1993). Employees would no longer need to manuall transfer information from one database to another, which would save a lot of time.

Also, many employees admitted that document work is time-considering. Due to automation, electronic document management help reduce the time, as a paperless office helps in automating control of accounts receivable. With the introduction of a paperless office, it will be easier to control how deadlines are met (Larin, 2001). Since Irkutsk Oil Company adheres to a quality management system, it is important for it to work with up-to-date data so that the organization can provide high-quality services. Irrelevant data can lead to reputational and certificates losses. Electronic document management and archiving will help to update data in and save important documents.

Moreover, the analysis revealed that paper documents significantly reduce the speed of work. Ordinary paper documents are limited by the properties of physical media. For employees to use the document, it must be printed out in the required number of copies, then registered in a file, sent to the addressees by mail or courier, approved by a manager and, finally, archived. Each of these operations takes a long time. Moving documents between employees takes more time than working with them. This problem can be solved with the help of a paperless office. The transmission of an electronic document is carried out through electronic information channels, so it is sent very quickly (Razinkov, 2016). Minimizing the costs of approving and moving documents between employees helps to improve the company's work performance. As we can see, a paperless office helps to reduce the cost of paper, delivery and storage of documents. The saved funds can be allocated on to other items that the company needs. Moreover, a paperless office allows an unlimited number of employees to work on one document. This function reduces

the time required for coordination and decision-making (Bearman and Trant, 1997).

The analysis also revealed that employees of the economic department waste a large amount of paper. The use of such a large amount of paper is not only associated with huge expenses, but also with a negative impact on the environment. When switching to a paperless office, paper consumption decreases, employees print documents fewer, less toner is consumed, and fewer cartridges are thrown away. Also, every year the problem of deforestation for paper production becomes more acute in the world, which entails many consequences and significantly affects our planet. Electronic document management reduces the number of operations related to paper, which makes a huge contribution into solving environmental problems and helps the company to become environmentally friendly. So electronic document management with the help of automation helps to reduce non-production costs. In addition, reducing paper costs is one of the options for taking care of the environment and the planet.

Even though after studying one department, it is too early to make generalizations about the whole company. The undertaken research shed light on some weaknesses and challenges the company faces and give much food for thought for managers and directors.

However, of course, there are significant restrictions in the company that prevent the introduction of electronic document management. Due to the large size and a huge amount of documentation, the transition to a paperless office will be a complex process that will take a significant amount of time. Also, to implement electronic document management, it is necessary to train all employees, which entails high costs. To teach employees, it will be necessary to find experts who can do this, which is also a rather complex and lengthy process. At the moment, the implementation of document management in the company is at an initial stage. Due to a number of reasons listed earlier, the introduction of a paperless office will be almost completed only in three years. Most likely, this will complicate the activities of the company's employees in the coming years. However, the company and employees are ready for the active stage of the system implementation.

Recommendations

To make the transition smoother, it is advisable that the introduction of a paperless office in the company be implemented in several steps. Thus, in an organization, different categories of documents or departments are transferred to the electronic document management in turn. In general, the introduction of a paperless office follows a similar scenario in all companies. This scenario is presented, a plan of recommendations, which includes the following stages:

Management should define goals and objectives. This stage implies the creation of a more efficient information exchange system in the company.

Employees should conduct an analysis of the office management system. At this stage, employees evaluate which documents are in the document flow and examine how the documentation moves, and what the procedures for their creation, signing and approval are.

Staff should prepare a plan to optimize office work. The stage ensures the ordering of paperwork.

Management should create a project to automate work with documents. Definition and regulation of the rules for working with the electronic document management system.

Implementation of a paperless office system by employees at all levels. At this stage, communication between users should be established. So, the programs that the company uses are integrated, and employees are given access to information.

Management should create programs to train staff to work with a paperless office. The stage provides for the development of instructions for employees with the skills of working with the electronic document management system.

Thus, these recommendations will help the company to implement a paperless office system.

Conclusion

Summing up, electronic document management in Irkutsk Oil Company is just beginning to develop. All employees of the company are confident that the introduction of a paperless office will help the organization to improve its activities and optimize various processes. Moreover, the company's staff is positive about this transition and believes that it will bring benefits to the company. In general, the use of an electronic document management system is an important step for a modern company. This system helps the company become more environmentally friendly, which improves its reputation in society. It will also be more convenient for suppliers with a paperless office to cooperate with an organization using the same technologies. ∎

1. Baines, A. (1997) End the paper chase. Work Study, 46(1):25–26.

2. Bearman, D., Trant, J. (1997) Electronic records research: working meeting: May 28-30, 1997: a report from the archive's community. D-Lib Magazine, pp. 7-8.

3. Bobyleva, M. (2018) Electronic documents: new technologies. Office work, 2018. pp. 11-28.

4. Crockett, M. (1993) The theory of electronic records and archive management: A preliminary outline, Journal of the Society of Archivists, Vol. 14, pp. 135-140.

5. Duranti, L. (2001) Concepts, Principles, and Methods for the Management of Electronic Records. The Information Society: An International Journal, 17(4), 271.

6. Falk, H. (1999) Storing and viewing electronic documents. The Electronic Library, 17(1).

7. Keary, M. (2000) Document management: new technologies for the information services manager. The Electronic Library, 18(2):137–146.

8. Larin M. (2001) Documentation management. Moscow: Scientific Book, p. 137.

9. Liu, Z., Stork, D. G. (2000) Is paperless really more? Communications of the ACM, 43, 11, 94-97.

10. Lutteroth, C. & Weber, G. (2011) Going paperless - on the evaluation of electronic form technologies. In 2012 23rd International Workshop on Database and Expert Systems Applications. IEEE Computer Society, 14–18.

11. Razinkov S. (2016) On the question of the concept of «electronic document management» // Document. Archive. History. Modernity: Materials of the VI International Scientific and Practical Conference, Ural University Press, 2016. pp. 62-66.

12. Sharma, P. (2000) E-transformation basics: key to the new economy. Strategy & Leadership, 28(4):27–31.

13. Tikhonov, V. (2005) Essential characteristics, composition, and classification of electronic documents // Circle of ideas: algorithms and technologies of historical informatics. pp. 394-435.

14. Velte, T., Velte, A., & Elsenpeter, R. C. (2008) Going paperless. In B. Reed (Ed.), Green it: Reduce your information system's environmental impact while adding to the bottom line (pp. 103-127). New York, NY: McGraw-Hill, Inc.

СПИСОК ЛИТЕРАТУРЫ:

Baines, A. (1997) End the paper chase. Work Study, 46(1):25–26.

Bearman, D., Trant, J. (1997) Electronic records research: working meeting: May 28-30, 1997: a report from the archive's community. D-Lib Magazine, pp. 7-8.

Bobyleva, M. (2018) Electronic documents: new technologies. Office work, 2018. pp. 11-28.

Crockett, M. (1993) The theory of electronic records and archive management: A preliminary outline, Journal of the Society of Archivists, Vol. 14, pp. 135-140.

Duranti, L. (2001) Concepts, Principles, and Methods for the Management of Electronic Records. The Information Society: An International Journal, 17(4), 271.

Falk, H. (1999) Storing and viewing electronic documents. The Electronic Library, 17(1).

Keary, M. (2000) Document management: new technologies for the information services manager. The Electronic Library, 18(2):137–146.

Larin M. (2001) Documentation management. Moscow: Scientific Book, p. 137.

Liu, Z., Stork, D. G. (2000) Is paperless really more? Communications of the ACM, 43, 11, 94-97.

Lutteroth, C. & Weber, G. (2011) Going paperless - on the evaluation of electronic form technologies. In 2012 23rd International Workshop on Database and Expert Systems Applications. IEEE Computer Society, 14–18.

Razinkov S. (2016) On the question of the concept of «electronic document management» // Document. Archive. History. Modernity: Materials of the VI International Scientific and Practical Conference, Ural University Press, 2016. pp. 62-66.

Sharma, P. (2000) E-transformation basics: key to the new economy. Strategy & Leadership, 28(4):27–31.

Tikhonov, V. (2005) Essential characteristics, composition, and classification of electronic documents // Circle of ideas: algorithms and technologies of historical informatics. pp. 394-435.

Velte, T., Velte, A., & Elsenpeter, R. C. (2008) Going paperless. In B. Reed (Ed.), Green it: Reduce your information system's environmental impact while adding to the bottom line (pp. 103-127). New York, NY: McGraw-Hill, Inc.

Безбумажный офис: мечта или реальность?

В данной статье рассматривается текущая система документооборота в Иркутской нефтяной компании. Цель работы — проанализировать процесс обработки документов в организации и изучить готовность компании к внедрению безбумажного офиса. Статья основана на исследование мнений сотрудников компании, полученных с помощью опросов и интервью персонала. Обзор литературы и анализ полученных результатов, позволяет прийти к выводу, что текущий документооборот является неудовлетворительным и внедрение безбумажного офиса поможет компании повысить эффективность работы, а также оптимизировать бизнес-процессы.

Ключевые слова: электронный документооборот, безбумажный офис, бизнес-процессы, документы, менеджмент, управление