

## THE INFORMATIZATION IN GOVERNMENTAL ORGANIZATIONS, ITS OPPORTUNITIES AND RISKS

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**Abstract.** The informatization process is growing and spreading every day among the whole of society, however not all governmental organizations implement technological advances in their work. In this article, the informatization process was explored from both sides, through researching methods (survey and interview) matters, in which using of informational technologies are possible were concluded, and it was examined whether it is possible to avoid all the risk of the informatization process and if there are any preventing methods. It was concluded that the informatization process – is one of the significant steps of the progress of society, is an integral part of every organization, which should be done to automatize the work and accelerate the whole work process. There are several ways to diminish the number of risks, there are to allocate government funds for recruiting high-qualified IT-specialist, which will responsible for management of systems and creating secure programs.

**Аннотация.** С каждым днем процесс информатизации растет и распространяется среди всего общества, однако не все государственные организации внедряют технологические совершенства в свой рабочий процесс. В этой статье, процесс информатизации был изучен с обеих сторон, посредством методов исследования (опрос и интервью) были выделены виды деятельности, в которых использование информационных технологий возможно, и были рассмотрены возможные методы для предотвращения возможных рисков информатизации. Информатизация – это один из значительных шагов прогрессирующего общества и неотъемлемая часть любой организации, которая необходима для автоматизации работы и ускорения всего рабочего процесса. Существует несколько способ уменьшения количества рисков информатизации: выделение государственных средств для приобщения высококвалифицированных ИТ-специалистов, которые будут ответственны за управление, создание и защиту информационных систем.

Күн сайын ақпараттандыру үрдісі бүкіл қоғам арасында дамып келеді, бірақ барлық мемлекеттік ұйымдар жетілдірілген заманауи технологияларды жұмыс үрдісіне енгізе бермейді. Бұл мақалада ақпараттандыру үрдісі екі жағынан қарастырылған - зерттеу әдістері (сауалнама мен сұхбат) арқылы ақпараттық технологияларды қолдану мүмкін іс-әрекеттері мен ақпараттандырудың барлық қауіптері мен олардың алдын-алу әдістері қарастырылған. Қорытындылай келе, ақпараттандыру үрдісі – бұл қоғамның алға басуындағы маңызды қадамдардың бірі және жұмыс үрдісін жеделдету үшін қажет кез-келген ұйымның ажырамас бөлігі. Қауіп-қатерлер азайтудың бірнеше жолдары бар: жүйелерді басқару және қауіпсіз бағдарламаларды құруға жауап беретін жоғары білікті ИТ-мамандарды іріктеу үшін мемлекеттік қаражатты бөлу.

**Keywords:** informatization process, digital systems, automatization of work, security services, integration.

## Introduction

One of the causes of technological advancement is the informatization process, which spreading is growing every day among the whole of society. The informatization process – is a policy focused on the growth of telecommunications infrastructure, through the adoption of information and technology and integrating the distribution of information resources. There are a variety of definitions and explanations for that growing phenomenon, which proves the fact, that it is gaining momentum today.

Furthermore, there is a pervasive concept called globalization process, which is indicated as one of the sustainable development goals, which includes the partnership among all the countries and involves of the significant spheres: finance, information and communication technologies, capacity-building, trade, systematic issues, data, monitoring, and accountability. To occur that goal, every country should be accessible to the public, which can be attained through the informatization process.

One of the essential reasons, why the topic for the research project is the following is that we are living in the 21st century, the century of innovations and inventions, in turn, what leads to the involvement of technological development in all the spheres of people's life. Nowadays not all governmental organizations implement technological advances in their work, but maybe in some cases, it will increase the efficiency of work. So, I am interested to discover the opportunities and possible risks of shifting working methods of governmental organizations.

## **Methods**

In this research paper, research methods, such as secondary and primary were used to avoid bias and to adhere to the neutrality side. The primary sources in that case interview and questionnaire were in use for obtaining precise results. Regarding the secondary sources, which helped to receive background information related to the topic.

Firstly, the work with secondary sources was done and it was lies in the fact to find and analyze sources related to the topic, which describes the main features of the informatization process, explaining the main opportunities and challenges of the transition to the informational systems. All the resources were checked for credibility, especially the reputation, vest of interest and expertise were emphasized.

Overall, the significant seven sources were chosen and evaluated and can be divided into three main groups. There are sources of the PDF format, which usually have a professional character, like exploratory works, scientific, and analytical papers, which are usually published by Ph.D. professors of different Universities or documents, summaries of conducted conferences, symposiums; sources, which were published in academical journals, in this case, "International Journal of Engineering & Technology" and "Science and Technology"; sources taken from educational networks, like "Social Science Research Network" or "Academia.edu".

Concerning the primary sources, interview and questionnaires were conducted. Both methods were used to embrace a large audience, to consider all the possible answers, to delve into the topic.

Firstly, an interview is a qualitative research method, which was used to develop hypotheses and to get a full explanation of the concept of the informatization process, its opportunities, and challenges of a transition to electronic systems, to suggest some solutions. The advantage of interviewing that it allows elaborating the answer fully, to interpret own opinion, however, it is a time-consuming process and because of the lack of interviewer's preparation, the mistakes during the answering can be involved.

Five people had been interviewed to extend the possible range of answers and to take different points of view into account, during the conclusion. Overall, there were seven questions: short-answer questions and questions, which are thought-provoking, which need to give a personal opinion and provide some explanation. Most of the questions were about the process of transition to digital systems, why there are still not popular in Kazakhstan and some possible issues caused and solutions for them, also the interviewers were asked about possible matters, in which electronic systems can be involved.

Secondly, the questionnaire is a qualitative research method, which was used to get an overview of informatization concept knowledge and to embrace a large audience. The advantages of organizing a questionnaire are that it is easy to conduct and allows analyzing data straightforward, whilst the responders cannot explain their points of view and there is a limited range of answers.

In general, fifty-two people of one governmental organization had been answered for the questionnaire to provide a review about the spreading of this phenomenon and to have a general background of the organization's opinion on this concept. The questionnaire consisted of eight multiple-choice questions about what each staff member thinks about the electronic systems, the significant possible risk of these systems and the most effective method to avoid it.

However, the existing limitations of research methods complicated the process of research work. Concerning the secondary sources, it was time-consuming to explore and examine all the sources related to the topic, because the concept of informatization is widespread in today's lives, however, method of criteria for credibility simplified all the objectives. Regarding the primary sources, it was complicated to organize it, and it takes a lot of time to analyze questions with a full explanation answers, and to contribute all the answers from paper-based questionnaires.

## Results

Considering, the primary sources the outcomes of the questionnaire and interviewees' answers were examined, which helped to analyze in the case of one governmental organization – military police, if there is a need of involving informational systems.

Q2: What do you know about the informatization process? The biggest part of surveyed people claims that the informatization process – is a method to automatize and to raise the efficiency of the work process (Figure 2).

Q3: How do you think the informatization process will affect the workflow? Talking about the influence of the informatization process, the staff members assume it will help to simplify and facilitate the workflow. However, one part of people was found it difficult to answer (Figure 3).

Q4: Do you know that most of the countries have their own electronic, informational platforms, including our country. Do you think they are effective? Slightly above the 50% percent respond that informational systems have high efficiency and allow to every citizen to address the concern to him/her questions to the government, whilst approximately 20% believe that electronic systems are the violation of the sanctity, because of the spreading of private information (Figure 4).

Q5: Why do you think your organization has not switched to informational systems yet? The major two reasons, like financial spending and the unpreparedness for such changes, were mentioned (Figure 5).

Q6: What works responsibilities do you think electronic platforms can be implemented in? Considering that question, the most common answer was working with databases, however, just above 25% of people found it difficult to answer. Also, introducing accounts is a possible answer that was chosen by 23% of surveyed people (Figure 6).

Q7: How can the shortcomings of the informatization process be eradicated? In this question, the opinions diverged. Personnel detected that to establish a registration form and provide every member with a personal account will be an effective solution to prevent the disadvantages of these systems, however, nearly 30% had not an answer. Also, to hire a new high-qualified specialist, who will maintain the work of the system and to protect websites with certain paid certificates variants were suggested (Figure 7).

Q8: How long do you think it will take to fully automatize the system of your organization? Regarding the last question, most of the staff members assume that shifting from traditional systems to informational will happen in this decade (Figure 8).

In general, 5 people have conducted the interview and have more than 10 years of work experience, unfortunately, most of the interviewees found it complicated to answer some of the questions,

because they have not even worked with such systems.

Because of that, it can be detected that some of the answers weren't elaborated fully.

It is evident from the interview that one of the drawbacks of traditional systems, which still interrupt the work process is paperwork, that is why they believe that the informatization process will accelerate the work process and automatize it.

It was a question about introducing the informatization process in governmental organizations and most of the interviewees mentioned the allocation of financial resources, to purchase different technologies from other countries or organizing it through governmental authorities and IT-professionals.

Five of the interviewees suggested different variants, in which digital systems can be involved regarding their department, they are case management, some calculations, and analyses, operational investigative activities, inquiry, and search, daily accounting of information, personnel recording.

Considering the implementation of electronic systems, the reason why it is still not involved in the work process is financial spending - a need of organizing the system, its responsibilities and security rules, purchase of technology and the requirement for specialists.

Furthermore, in the question regarding the possible solutions to minimize the risk of transition from the traditional system to electronic, the opinions were controversial. One offered to control all through governmental authorities, others suggested to establish protective programs.

Also, it was recommended to identify professionals in IT-sphere through several questionnaires, who will improve that system.

In conclusion, the informatization process is a significant method to accelerate the whole work process and to avoid current issues, as paperwork. However, they are still not implemented in the work of governmental organizations, because the staff members are not prepared for these changes, also, it is insufficient funding and a dearth of specialists. Although governmental organizations are security services, there are possible matters and duties, in which electronic systems can be involved, such as analyzes, calculations, and accounting.

Also, the number of solutions was recommended, they are control of governmental authorities, increase the number of specialists, which will work for enhancing the digital systems, increase privacy and limit availability.

## **Discussion**

Overall, the informatization process - is one of the significant steps of the progress of society, is an integral part of every organization, which should be done to automatize the work and accelerate the whole work process.

The main goal of the research project was to examine the spectrum of opportunities and risk of the transition from traditional systems to electronic ones, so concluding everything, there are a variety of benefits of using informational systems: automatization of work, increased velocity of the work processes, convenient, simplicity, availability to everyone citizen, which will strengthen the globalization process, the possibility to be anywhere in anytime, but to be always informed, etc. Whilst the main risks of the shifting informational systems are hacker attacks, which can lead to the information loss or spreading of privacy, high financial costs for the establishment and management of the digital systems.

The lack of informational systems in governmental organizations is connected with that there is no financial help to purchase modern technologies and devices, in which it can be implemented.

Also, there is a concept, that the informational systems are not safe, so there is a need to take risks, especially for organizations, where is most of the work is confidential. Despite that fact, in some

matters these electronic systems can be implemented, there are different calculations, analyzes, case management, operational investigative activities, inquiry and search, daily accounting of information and personnel recording.

However, there are several ways to diminish the number of risks, there are to allocate government funds for recruiting high-qualified IT-specialist, which will responsible for management of the system, for creating a secure programs, which will limit an access for non-governmental organizations' workers, to implement the registration forms and provide each staff member with a definite account.

Predictions, which were made from the primary sources, in case from the conducted questionnaires and interviews were the following: the informatization process – is a needed part of integration of the society, but it will take a definite period of time to completely change the traditional systems to electronic ones, because community is still not ready for these reforms and it will be time-consuming to equip each organization with all the needed technologies and devices, to learn a real proven IT-specialists, who will set up all the needed programs and its work, which will provide the privacy for the information and automatization of the work.

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Appendices

Questionnaire:

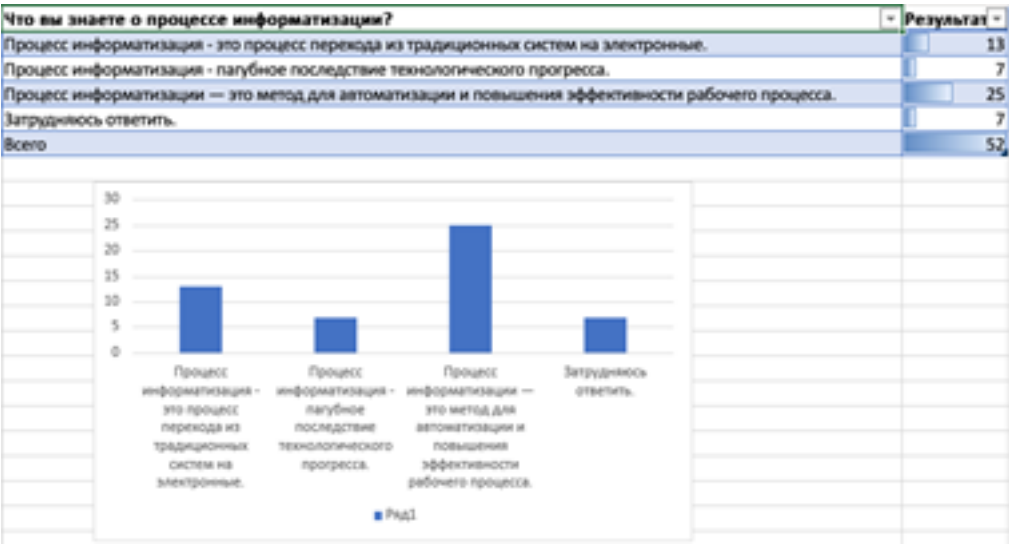


Figure 2. Question from the questionnaire



Figure 3. Question from the questionnaire

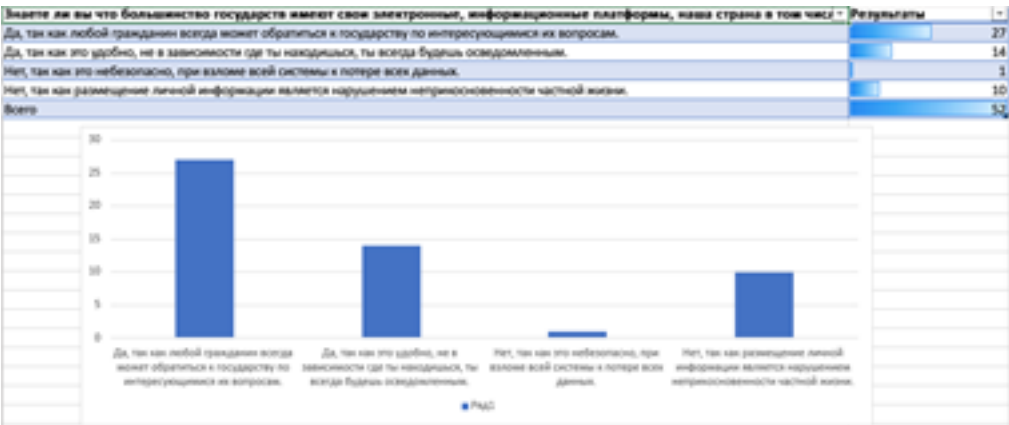


Figure 4. Question from the questionnaire

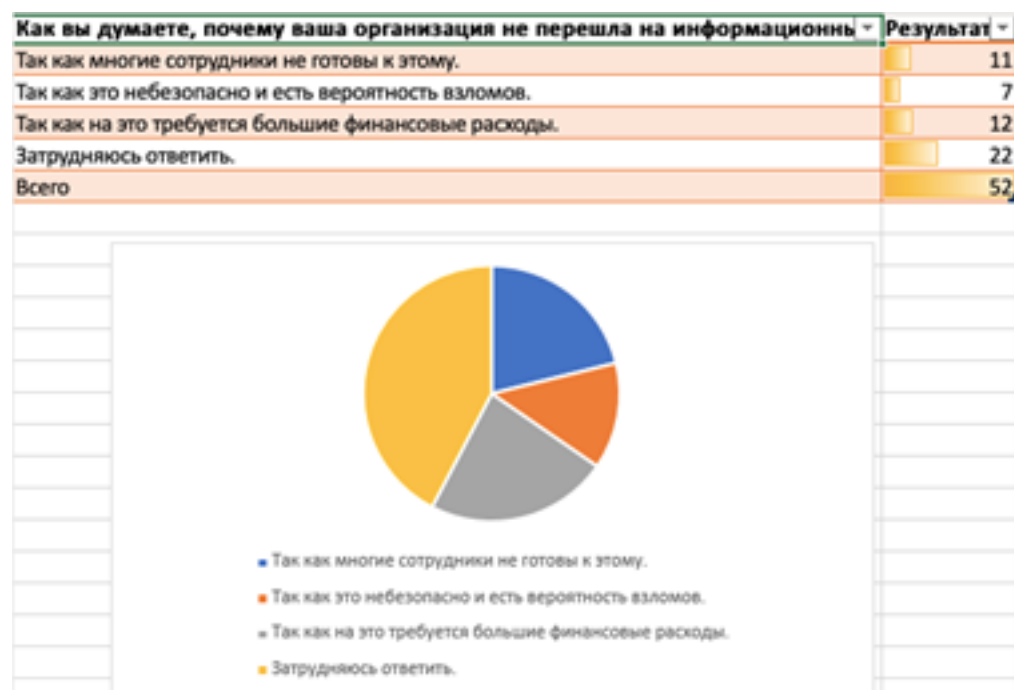


Figure 5. Question from the questionnaire

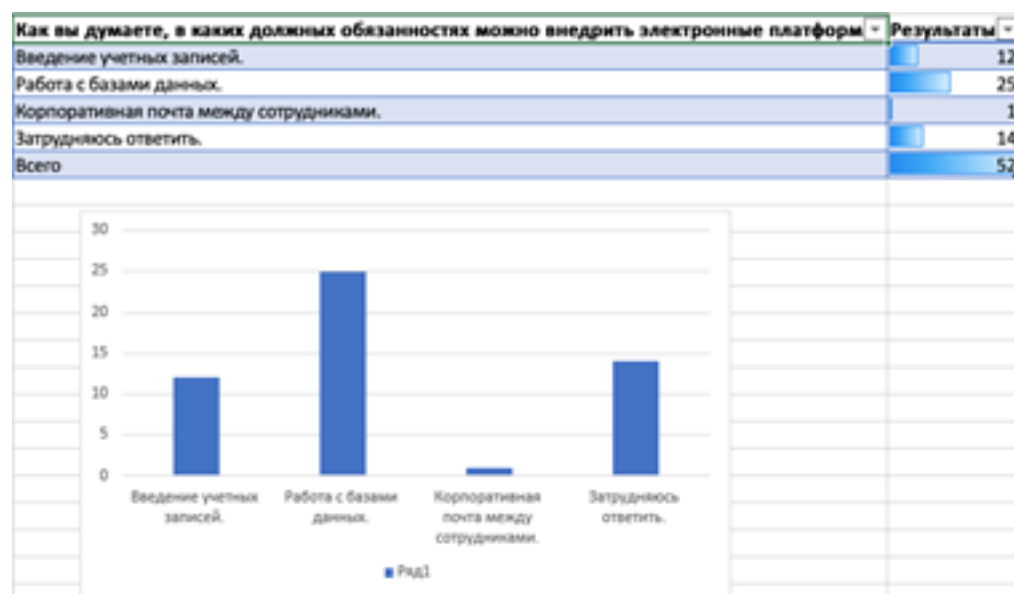


Figure 6. Question from the questionnaire



Figure 7. Question from the questionnaire



Figure 8. Question from the questionnaire