

FORMATION OF A MANAGEMENT STRUCTURE IN THE FIELD OF ICT**Avloqulova Sadoqat Sobirjon qizi**

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Abstract

This article examines the formation of an effective ICT management structure in industrial enterprises. It identifies challenges with traditional organizational models, which hinder ICT implementation due to poor coordination and bureaucratic barriers. The article suggests centralizing ICT management and appointing a Chief Information Officer (CIO) to align ICT strategies with business goals. The establishment of an ICT Committee is recommended to improve decision-making and problem resolution, despite potential issues like compromise solutions and groupthink. The focus is on creating a cohesive ICT management framework to drive innovation and efficiency.

Key words: ICT Management, organizational structure, Chief information officer (CIO), industrial enterprises, ICT committee, decision-making, efficiency

Аннотация

В данной статье рассматривается формирование эффективной структуры управления ИКТ на промышленных предприятиях. В нем выявляются проблемы традиционных организационных моделей, которые препятствуют внедрению ИКТ из-за плохой координации и бюрократических барьеров. В статье предлагается централизовать управление ИКТ и назначить директора по информационным технологиям (CIO) для согласования стратегий ИКТ с бизнес-целями. Рекомендуется создать комитет по ИКТ для улучшения процесса принятия решений и решения проблем, несмотря на потенциальные проблемы, такие как компромиссные решения и групповое мышление. Основное внимание уделяется созданию целостной системы управления ИКТ для стимулирования инноваций и повышения эффективности.

Ключевые слова: Управление ИКТ, организационная структура, директор по информационным технологиям (ДИТ), промышленные предприятия, комитет по ИКТ, принятие решений, эффективность.

Annotatsiya.

Ushbu maqolada sanoat korxonalarida samarali AKT boshqaruv tuzilmasini shakllantirish ko'rib chiqiladi. Unda muvofiqlashtirish va byurokratik to'siqlar tufayli AKTni joriy etishga to'sqinlik qiluvchi an'anaviy tashkiliy modellar bilan bog'liq muammolar aniqlanadi. AKT strategiyalarini biznes maqsadlariga moslashtirish uchun Bosh Axborot Direktorini (CIO) tayinlash taklif etiladi. Murosa yechimlari va guruhli fikrlash kabi mumkin bo'lgan muammolarga qaramay qarorlar qabul qilish va muammolarni hal qilishni yaxshilash uchun AKT qo'mitasini tashkil etish tavsiya etiladi. Asosiy e'tibor innovatsiyalar va samaradorlikni ta'minlash uchun yaxlit AKT boshqaruv tizimini yaratishga qaratilgan.

Kalit soʻzlar: AKT boshqaruvi, tashkiliy tuzilma, Bosh axborot direktori (BAD), sanoat korxonalari, AKT qoʻmitasi, qarorlar qabul qilish, samaradorlik

INTRODUCTION

Effective Information and Communication Technology (ICT) management is crucial for the success of industrial enterprises. Traditional organizational models often present challenges for ICT implementation due to their hierarchical structures and functional silos. These outdated structures hinder cross-departmental coordination and innovation, leading ICT departments to focus on short-term, isolated issues rather than contributing to broader strategic goals. Here examined the limitations of these traditional models, highlighting functional barriers that fragment technology use and hierarchical barriers that slow decision-making and innovation. It proposes a centralized ICT management approach, including the appointment of a Chief Information Officer (CIO) to align ICT initiatives with business strategies and the establishment of an ICT Committee to enhance cross-departmental collaboration and problem-solving.

By adopting a more integrated and strategic ICT management framework, industrial enterprises can overcome traditional barriers, improve efficiency, and drive innovation. This shift is essential for leveraging ICT to support organizational growth and maintain a competitive edge in the market.

LITERATURE REVIEW

The role of Information and Communication Technology (ICT) in enhancing organizational performance has been extensively documented in academic and industry literature. Various studies emphasize that effective ICT management is pivotal for achieving strategic business objectives, especially in complex industrial environments. Byrd and Turner emphasized the advantages of a decentralized approach, which includes greater flexibility and responsiveness to local needs[1]. However, more recent studies, such as those by Bharadwaj et al., advocate for a hybrid model that combines the strengths of both centralized and decentralized structures, thereby optimizing ICT governance and enhancing organizational agility[2]. This approach aligns with the views of Weill and Ross, who argue that effective ICT governance involves a balanced distribution of decision-making authority that accommodates both strategic oversight and operational flexibility[3]. The formation of ICT Committees as a mechanism for collaborative decision-making has been supported by various studies. Leidner and Kayworth discussed how ICT committees facilitate a broader view of organizational challenges, allowing for more comprehensive and informed decision-making[4]. They also noted that such committees help in reducing uncertainty and ensuring that ICT investments are aligned with strategic objectives.

DATA AND METHODS

The methodology integrated both qualitative and quantitative approaches to ensure a comprehensive analysis of ICT management practices in industrial

enterprises. Interview and case study data were coded and analyzed to identify key themes related to ICT management, organizational challenges, and potential solutions. Comparisons were made between enterprises with different organizational structures (e.g., hierarchical, matrix) to assess the impact on ICT management effectiveness and identify best practices. By combining qualitative insights with quantitative data, the study aims to offer actionable recommendations for improving ICT management practices, overcoming traditional organizational barriers, and enhancing overall organizational performance in the industrial sector.

ANALYSIS AND RESULTS

To optimize the use of resources and achieve set goals in the field of informatization of the company's business, one of the main roles is played by the correct organization of the structure of the company's ICT service, its place in the management structure of the company and the procedure for interaction of the ICT department with other divisions of the enterprise.

Until now, the ICT services of enterprises were built and operated based mainly on the need to solve current local short-term problems, which, moreover, often did not have a clear formulation and were not agreed upon with the end users of information.

In addition, in such conditions, companies, as a rule, do not have a balance of participation of ICT specialists and specialists from functional departments in the development and application of ICT in the company. In the absence of an ICT management system in an enterprise, control over the use and implementation of ICT can be established either by a group of business specialists, i.e. ICT users, or a group of ICT specialists, i.e. ICT suppliers, depending on the strength of both in the company, influence on the company's management, etc. Table 1 shows the consequences of the predominance of the interests of one of these groups when making decisions in the field of ICT.

Table 1.

Possible consequences of dominance in the enterprise by ICT specialists or end users

Dominance of ICT specialists	User Domination
• Too much emphasis on database and systems maintenance. • All new systems must comply with the data structure of existing systems. • Applications for services require justification of their need. • With rare exceptions, standardization dominates. • The benefits of user control are discussed but not realized. • The argument that internal development is always cheaper than purchasing ICT from outside.	• Too much attention to specific problems of ICT implementation. • ICT is out of the control of specialists. • Explosive growth in the number of new systems and the personnel supporting them. • ICT services are provided by a variety of suppliers. Frequent changes in providers of specific services. • Lack of standards and control over data and systems. • There are no clear benefits of using ICT. • Individual benefits are not systematized.

Dominance of ICT specialists	User Domination
• Working at the edge of technical capabilities and not sufficiently user-focused. • Specialists have full control over their activities and the activities of users. • The ICT portfolio is under strict control of specialists. • No strong user groups. • Top management is not involved in ICT-related activities, although they pay attention to them	• Insufficient assessment of the effectiveness of new systems. • ICT specialists are not consulted for advice. • If they receive advice, they do not follow it. Focus on external ICT services. • Building networks based on your own, not corporate needs. • Some users do not understand why they need IS. • There is no coordination between users in terms of transfer of experience. • Duplication of technical personnel • Increased communication costs

The reason for such phenomena lies, according to the author, in the type of organizational management structure that has developed in most Russian companies in the manufacturing sector. Today, industrial enterprises, as a rule, have traditional organizational structures: functional, divisional, matrix.

When introducing ICT in enterprises with traditional hierarchical management structures, problems arise that are a consequence of obstacles contained in the management structures themselves. Thus, one of the critical disadvantages of such structures in the field of ICT is the presence of functional barriers that arise due to weak interconnection and coordination of interactions between departments and divisions. In addition, with a matrix structure, there is a high probability of contradictions between the sides of the matrix. In addition, department employees direct their efforts primarily to achieving the goals of their structural unit, often even to the detriment of the strategic goals of the organization as a whole. Because departmental chains of command converge only at the top of the hierarchical pyramid, decisions affecting multiple departments are made only at the top levels of the hierarchy. As a result, innovation processes slow down.

The second significant drawback of such structures when introducing ICT is the hierarchical barrier. As a rule, in medium and large organizations there are several management levels (manager, his deputy in charge of a certain area, head of a department, foreman, etc.). As a result, rationalization proposals coming from below are forced to go through a whole fence of bureaucratic barriers (reviews, approvals, etc.), which, of course, complicates and slows down the process of introducing advanced ideas[5].

Also, such structures are characterized by a problem associated with the distribution of responsibility between structural units. Each department is responsible only for a certain part of the production process and does not take responsibility for the fate of the product as a whole. Due to the delegation of some powers to functional managers, the company's management does not have complete and sufficient

information regarding problems affecting several departments to make high-quality decisions.

To neutralize these shortcomings, it is necessary to centralize ICT support functions, as well as general ICT management to ensure uniform technological standards throughout the organization and build a consistent ICT architecture.

Many large industrial companies, realizing the importance of centralizing ICT management, are now introducing the position of CIO or, in Western terminology, Chief of Information Officer, whose role is to centralize management of ICT development in the company. At the same time, the CIO belongs to the highest level of management in the company, which ensures the connection between the strategy in ICT development and the business strategy of the company.

Thus, the CIO is a manager in whose hands are concentrated the tools for effectively managing the company, reducing costs and entering new markets. In addition, he is expected to propose proposals for new areas of business and new methods of interaction with contractors and personnel based on the use of new information technologies.

The core of the management structure in the field of ICT at the enterprise is the Committee on Information and Communication Technologies - a permanent, horizontally and vertically integrated, collegial management body of the company in the field of information, automation and telecommunications.

From all participants in the system, the ICT Committee receives requests (orders) for ICT, which are essentially a statement of a problem that needs to be resolved by means of ICT and proposals (solution options) submitted for discussion. The committee, as an enterprise expert body in this area, selects currently relevant problems and their optimal solutions and issues tasks for the implementation of the ICT department and interested business units. At the same time, the deadlines for the implementation of the project are established, the persons responsible for its implementation, both from the customer department and from the contractor, are determined by the financing of the project, etc. In the future, interaction between the customer unit and the ICT department on this issue (support) is carried out, bypassing the ICT Committee.

Thus, the work of the ICT Committee is based on the involvement of subordinates in resolving issues in the field of informatization, which has a number of advantages that make it possible to eliminate the above hierarchical and functional barriers:

- a broad view of the problem and its thorough analysis;
- more knowledge, facts and alternatives;
- during collective discussion, uncertainty regarding options for action is reduced;
- participation of subordinates in resolving problems increases their satisfaction with the results of their work and stimulates high activity in its implementation.

However, it should be noted that this style of decision-making also has a number of disadvantages:

- compromise solutions may not satisfy anyone;

- Groupthink: Group norms discourage the expression of differences of opinion and diversity of opinions. In the process of joint activity, group members become so loyal to their group that they do not want to contradict each other [6];
- absence of a specific person responsible for the decision.

CONCLUSION

This article has examined the challenges industrial enterprises face with traditional hierarchical and siloed organizational structures that hinder effective ICT implementation. It underscores the need for centralized ICT management and the appointment of a Chief Information Officer (CIO) to align ICT initiatives with business goals. Establishing an ICT Committee can also enhance collaborative decision-making and streamline problem resolution.

Adopting a more integrated ICT management framework can help industrial companies overcome traditional barriers, improve efficiency, and drive innovation. By centralizing ICT functions and ensuring they align with strategic objectives, enterprises can reduce costs, enhance decision-making, and support long-term growth and competitiveness. Transitioning to this approach is essential for leveraging ICT effectively and achieving sustained success in a rapidly changing technological environment.

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