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SPECIFICS OF THE IT INDUSTRY AND ITS IMPACT ON SOFTWARE ENGINEERING ACCOUNTING AND CONTROL

The article examines the specific features of the IT industry and their impact on the organization of accounting and control in software engineering. It is established that the IT industry differs from other sectors due to the intangible nature of its products, project-based activities, long development cycles, simultaneous software development and service provision, and specific legal and tax regulations. The study substantiates the need to transform accounting and control methodologies by adapting them to the industry-specific characteristics of IT enterprises. Particular attention is paid to improving analytical accounting for intangible assets, strengthening control over labor resources, project budgets, development deadlines, and intellectual property rights. It is concluded that considering the specific characteristics of the IT industry enhances the quality of accounting and control information and improves the effectiveness of IT enterprise management.

Keywords: accounting; control; specifics of the IT industry; software engineering; intangible assets.

Introduction. Each sector of economic activity has specific characteristics arising from the organizational and economic conditions of business entities. The IT industry encompasses activities across various software and technological domains related to the digitalization of information processes. A key component of the IT sector is the development of software products and the provision of related services. Software development and market deployment proceed through sequential stages, each involving distinct processes. These industry-specific features differentiate IT from other economic sectors, where

software engineering integrates product creation with service delivery, forming a unified system of intangible asset development and support.

The specificity of software engineering generates unique accounting objects rarely encountered in other industries. From an accounting and control perspective, software development involves specific objects and processes that require specialized methodological approaches. Consequently, the characteristics of the IT industry significantly influence accounting theory and practice, driving the transformation of methods and organizational frameworks for accounting and control systems in IT businesses [1]. At the same time, general industry features are complemented by internal and external conditions specific to individual IT enterprises. Each company has its own organizational particularities that must be considered when improving accounting systems and internal control over software development and related service provision.

Literature Review. The specifics of IT enterprises, derived from the characteristics of the IT industry, have been widely studied by scholars, although only limited research focuses on their impact on the economic functioning of IT companies. Researchers such as Mamontova N. A. and Tataryn M. O. emphasize the division of IT firms into product and service models and the influence of legal and taxation structures [2]. Similar views are expressed by Ponomaryova T. V. and Melnykova O. P., who highlight outsourcing and product-based business models as well as cooperation with individual entrepreneurs [3]. However, these studies provide only fragmented perspectives on IT industry characteristics.

A more detailed approach is presented in international research. Ben-Menachem M. identifies software as an intangible asset with high development cost and low reproduction cost, continuous updating, and valuation complexity [4]. Laato S. et al. emphasize scalability, cloud technologies, rapid innovation, and workforce transformation [5], while Lema R. et al. focus on global value chains, innovation intensity, and human capital importance [6]. Nevertheless, these works lack an integrated view of IT industry specificity.

From an accounting perspective, Kemarska L. G. highlights non-traditional production processes, multiple software commercialization models, and high shares of intangible assets [7], while Muravskiy V. V. et al. stress digital governance, decentralization, ESG reporting, and human capital value [8]. Lagovska O. A. and Loskorikh H. L. further note service complexity, remote interaction, and low customer involvement [9]. Loskorikh H. L. provides the most comprehensive classification, including

intangible output, project-based work, global operations, and high risk levels [10]. Overall, existing studies remain fragmented, which necessitates further systematization of IT industry characteristics and clarification of their impact on accounting and control in software development activities.

The purpose of the article. The aim of the article is to identify specific characteristics of the IT industry that influence accounting and control in software engineering in order to determine prospective directions for transforming the accounting and control support of IT enterprise management.

Research results. Key characteristics of software development include the intangible nature of products, long production cycles, project-based organization, simultaneous creation of software products and provision of related services, high intellectual intensity of work, elements of embodied labor, a specific legal and tax framework, and international economic activity (Fig. 1).

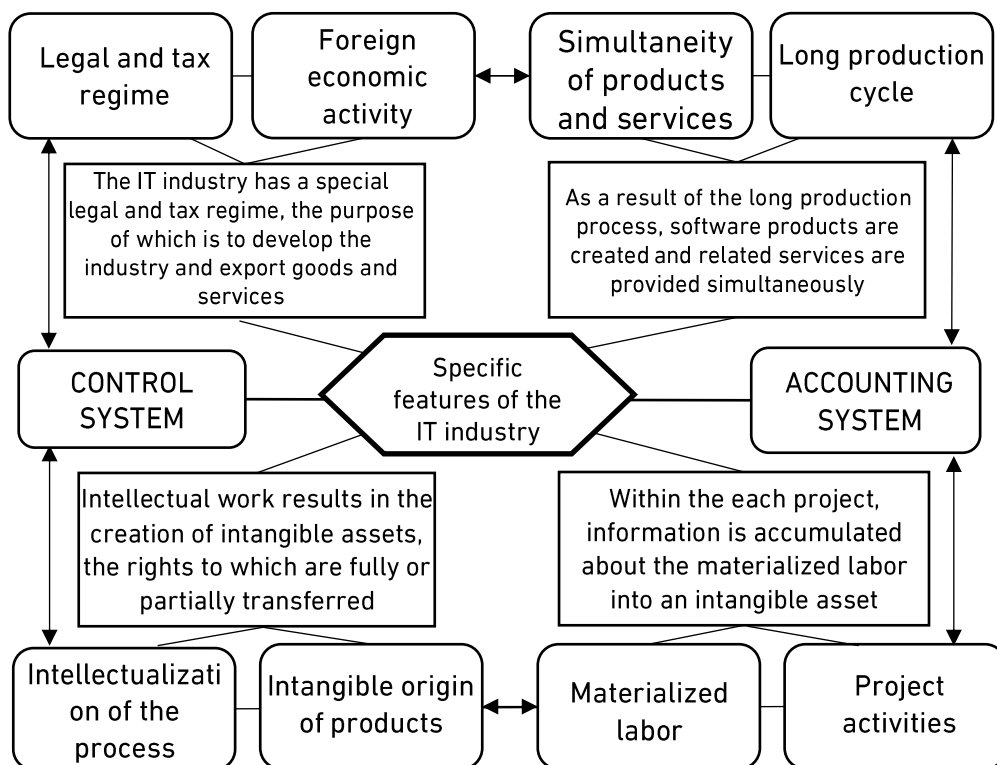


Fig. 1. Specific features of software engineering as an economic activity in the IT sphere



One of the specific products of the IT industry is software, which is recognized in accounting as an intangible asset. Software has no physical form except for the medium on which it is stored or distributed. Since software is stored as code and digital objects in databases or cloud environments, the issue of responsibility for its control arises. However, the concept of a materially responsible person is not fully applicable due to its non-physical nature. At the same time, software is separable from its storage medium, has a defined cost, and may be transferred partially or fully to other entities. A methodological issue arises in distinguishing between purchased software, internally developed software, and software intended for sale. Intangible assets used by the enterprise are accounted for under a special account. The same approach applies when ownership is retained while usage rights are transferred via licensing. However, software created for sale lacks a dedicated accounting account, and its production costs are usually expensed immediately, which complicates the reflection of its economic substance.

Another key feature is the long lifecycle of software, characterized by moral rather than physical depreciation. Software used internally may be amortized, while software intended for sale is not, regardless of storage duration. Frequent updates are treated either as modernization or creation of new versions, requiring clear classification within accounting and control systems. Software development is also highly labor- and time-intensive, often exceeding one year, which leads to delayed revenue recognition and potential distortion of financial results if income is recorded only upon delivery. To address this issue, construction-contract-style accounting is proposed, where revenue is recognized based on the percentage of project completion. This improves the accuracy of work-in-progress valuation and aligns income with the stage of completion. Software development is project-based, requiring analytical accounting of costs and revenues by project, involvement of accounting and control specialists, and reliable internal control for managerial decision-making.

Project-based management also enables monitoring of project completion and timely corrective actions in case of deviations from schedules. Within projects, IT enterprises combine software development and service provision, integrating production and service processes. Accounting systems must distinguish between production and service activities using appropriate accounts to ensure accurate cost allocation.

Software engineering is highly intellectualized, with human knowledge and creativity forming the core production factor. Intellectual

capital requires proper valuation, while control systems monitor intellectual contributions and ensure fair compensation. The resulting intellectual property rights are monetized through licensing, royalties, and related payments, requiring accurate accounting and control. Labor costs represent the largest share of software production costs, with salaries and social contributions forming the basis of software valuation. Time-tracking systems are used to allocate costs across multiple projects, ensuring accurate distribution.

The IT industry also operates under a specific legal and tax regime, including frameworks such as «Dia.City», which introduce tax incentives and flexible employment models involving freelancers and outsourcing. Finally, IT enterprises are highly integrated into global markets, requiring foreign exchange monitoring and compliance with currency regulations. Accounting systems must reflect exchange rate differences and use proper documentation such as invoices and contracts. Overall, external operations require strict control and coordination to ensure accurate and transparent accounting of IT export-import activities. The systematization of the characteristic features of the IT industry in the table indicates their transformative impact on accounting and control of software engineering. Software engineering forms a set of specific accounting and control requirements that must be taken into account when building an effective information support system for managing IT enterprises.

Conclusion. The IT industry, comprising various segments of IT enterprise activity, is fundamentally distinct from other types of economic activity. The core of the IT sector lies in software development and the provision of related services. Key features of software engineering include the intangible nature of output, long production cycles, project-based organization, simultaneous creation of software products and service delivery, high intellectual intensity, embodied labor, a specific legal and tax framework, and active foreign economic operations. These industry-specific characteristics exert a transformative influence on the methodology and organization of accounting and control within IT enterprises. Incorporating these features into accounting and control support systems requires detailed analytical tracking of intangible assets by project, development stages, and intellectual property objects. It also involves monitoring the concurrent production of software and provision of services at both domestic and international levels, as well as adapting accounting systems to special legal and tax regimes governing IT companies.

Table

Characteristic features of software engineering accounting and control

Characteristic of the IT industry	Impact on accounting and control	Features of accounting and control
Intangible origin	Intangible nature of software, differentiation of own/for sale, depreciation, renewal. Accounting for intangible assets, separate recognition, control of rights, depreciation, modernization	Accounting for licenses, versions, responsible persons, control of movement and rights
Long production cycle	Long-term creation of software. Phased recognition of income, non-current assets, comparison of income and expenses	Assessment of project readiness, control of stages and work in progress
Project activity	Project work. Analytical accounting for projects, calculation	Control of the budget, deadlines, resources of each project
Simultaneous creation of products and services	Combination of development and services. Allocation of costs and accounts	Separate accounting of products, support and services
Intellectualization of the process	Dominance of intellectual capital. Assessment of IP, royalties, licenses	Control of employee contributions and IP rights
Commoditized labor	Main costs – labor costs. Distribution of salary for time-tracking	Control of labor costs and cost price
Legal and tax regime	Benefits, «Dia.City», gig contracts. Tax accounting, electronic document management	Control of compliance with legislation and contracts
Foreign economic activity	Export of software, currency transactions. Exchange rate differences, currency accounting	Control of foreign economic activity, currency settlements, taxes

Furthermore, effective management requires strengthened control over labor resource utilization, budget compliance, project deadlines, and intellectual property rights.

The transformation of accounting and control in line with both internal and external conditions of the IT industry contributes to the formation of an information support system for managing IT enterprises.

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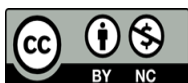
СПЕЦИФІКА ІТ-ІНДУСТРІЇ ТА ЇЇ ВПЛИВ НА ОБЛІК І КОНТРОЛЬ ПРОГРАМНОЇ ІНЖЕНЕРІЇ

Статтю присвячено дослідженню специфічних особливостей ІТ-індустрії, які визначають трансформацію методології та організації бухгалтерського обліку й внутрішнього контролю у сфері розробки програмного забезпечення. Обґрунтовано, що програмна інженерія є ключовим напрямом діяльності ІТ-підприємств, поєднуючи процеси створення програмних продуктів і надання супутніх послуг, що формує специфічні об'єкти обліку та контролю. Узагальнено результати наукових досліджень щодо особливостей функціонування ІТ-підприємств і встановлено фрагментарність існуючих підходів до їх систематизації. Виділено основні характеристики програмної інженерії як виду економічної діяльності, серед яких нематеріальна природа програмного забезпечення, тривалий виробничий цикл, проєктний характер виконання робіт, одночасне створення програмних продуктів і надання послуг, висока інтелектуальна насиченість процесів, значна частка витрат на оплату праці, специфічне правове та податкове регулювання, а також активна зовнішньоекономічна діяльність. Доведено, що зазначені особливості безпосередньо впливають на організацію бухгалтерського обліку, порядок визнання та оцінки нематеріальних активів, розподіл витрат, облік доходів за стадіями виконання проєктів, документальне оформлення операцій, контроль використання трудових ресурсів і

дотримання прав інтелектуальної власності. Особливу увагу приділено необхідності ведення аналітичного обліку за окремими проєктами, стадіями розробки та об'єктами інтелектуальної власності, а також використанню систем контролю за бюджетами, строками виконання робіт і валютними операціями. Обґрунтовано доцільність адаптації обліково-контрольної системи до спеціальних режимів функціонування ІТ-підприємств, зокрема в умовах застосування правового режиму «Дія Сіті» та здійснення міжнародної діяльності. Доведено, що систематизація специфічних особливостей ІТ-індустрії створює теоретичне підґрунтя для вдосконалення інформаційного забезпечення управління ІТ-підприємствами та підвищення ефективності бухгалтерського обліку і внутрішнього контролю в процесі розробки програмного забезпечення.

Ключові слова: облік; контроль; специфіка ІТ-індустрії; програмна інженерія; нематеріальні активи.

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