



Home / Archives / Vol. 49 No. 2 (2023) / Article

MAIN DIRECTIONS OF THE DIGITALIZATION OF ACCOUNTING AND THEIR APPLICATION IN THE EDUCATIONAL PROCESS

Olha Hrytsenko

Separate Subdivision „Khmelnyskiy Professional College of Trade and Economics of Kyiv State University of Trade and Economic”, Ukraine

<https://orcid.org/0000-0002-9253-7299>

DOI: <https://doi.org/10.58246/sj-economics.v49i2.627>

Keywords: accounting, effectiveness of management decisions, educational process, digitalization

Abstract

Abstract

The article examines the essence of digitalization, the role of digitalization in accounting under modern conditions and its directions. It was noted that digitization provides an opportunity to abandon paper accounting and traditional document management in general. The interaction of individual structural divisions is carried out at maximum speed, which allows using the saved time to increase labour productivity. In addition, the possibility of errors is reduced because the impact of the human factor is decreased, as individual modules of the digital infrastructure take over many important functions of employees. The need to introduce into the educational process various areas of digitization of accounting with the study of domestic software products for the purpose of training future specialists in accounting and taxation for modern enterprises is substantiated.

References

Lytvynov O. M. (2020) Didzhitalizatsiya na porozi tsyfrovoho dakhau. Derzhava i zlochynnist?. Novi vyklyky v epokhu postmodernu. Kharkiv, s. 170-172 URL: <http://dspace.univd.edu.ua/xmlui/handle/123456789/9635>

Husyeva O. YU., Lehominova S. V. Didzhitalizatsiya - yak instrument udoskonalennya biznes-protseviv, yikh opy- mizatsiya. Ekonomika. Mandatnyi Bilnyk 2019, 24 (22), 6-22. URL: [https://doi.org/10.26907/2542-0412.2019.24\(22\).6-22](https://doi.org/10.26907/2542-0412.2019.24(22).6-22)

Information

[For Readers](#)

[For Authors](#)

[For Librarians](#)



Published
2023-04-19

Issue
[Vol. 49 No. 2 \(2023\)](#)

Section
Article

License

Copyright (c) 2023 Olha Hrytsenko



This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0](#)

SCIENTIFIC JOURNAL

**HIGHER ECONOMIC - SOCIAL SCHOOL IN
OSTROLEKA**

2/2023(49)

Łomża, 2023

Olha Hrytsenko

Separate Subdivision „Khmelnyskyi Professional College of Trade and Economics of Kyiv State University of Trade and Economic”, Ukraine

ORCID ID: <https://orcid.org/0000-0002-9253-7299>

**MAIN DIRECTIONS OF THE DIGITALIZATION OF
ACCOUNTING AND THEIR APPLICATION IN THE
EDUCATIONAL PROCESS**

Introduction

Accounting information plays a decisive role in ensuring the successful functioning of any economic entity. It is the accounting data that is used to meet the needs aimed at the intensity of demand for providing timely, objective and reliable information to external and internal users for the purpose of making effective management decisions. Accounting professionals identify, measure, record, accumulate, summarize, store and transmit information about activities to external and internal users. Therefore, they need in-depth knowledge of accounting and analysis, modern methods of taxation and organization of legal relations, as well as to be computer-literate and add modern software products to accounting. Only the efficiency of data collection and processing, their significance and relevance allow making effective decisions, respond in time to changes in the internal and external environment. The role of accounting is becoming more active in the part of information management support. Therefore, the first component that undergoes changes in case of digitization of the enterprise is the information component, since it is the main resource and product of its information system.

Purpose, subject and method of research

The objective. The purpose of this article is to substantiate the essence of the digitization of accounting and its directions, outlining the application of modern and domestic digital technologies in the educational process for future accounting and taxation specialists.

The subject is theoretical and practical principles of digitization of accounting in modern conditions of economic entities.

The methods of research. Methods of system analysis and synthesis, methods of abstraction, grouping and generalization.

Findings

At the current stage, managers of economic entities face important tasks: the formation, timely receipt and transfer to the necessary users of complete, true and unbiased information about the real financial state of economic entities. In the past, business owners had to hire accountants to manually record and process accounting information, which took more time, money, and effort, and was prone to errors. Paper document circulation and paper processing of information led not only to a large amount of work, but also proved to be inconvenient, as well as the lack of promptness of information transfer, which is unacceptable in today's fast digital environment of information flow.

Undoubtedly, data processing using digital technologies is faster and makes it possible to avoid errors that often occur when processing documents manually. Also, the use of digital technologies allows you to quickly find the information you need at the moment. This is especially relevant in the modern era of digitalization, because overall success of the enterprise largely depends on the speed of making balanced decisions.

The word “digitalization” comes from the English language and means the penetration of digital technologies into all spheres of social life. According to O. Lytvynov, “digitalization is a phenomenon that causes successive transformations of the social and cultural code, united by a common vector of development”. The researcher connects digitalization with social communication and analyzes the change of social institutions and the subsequent change in the development of humanity in this regard [1, s. 170-172].

When studying the issue of digitalization, it is worth noting that the concepts of “automation”, “data digitization” and “digital transformation” are often confused.

The most significant difference between digitalization and automation is that automation can be partial or gradually change the existing structure of public services, business services and other spheres of social activity. And digitalization is associated with a change in the approach to business itself, the state, and social life in general.

Digitization of data is the first stage in the automation of public services. Thus, the process of data digitization is a component of the automation process. An example of data digitization is obtaining a certificate online, which has legal value and is analogous to a paper one.

Digital transformation is the broadest concept that means digital penetration in circumstances where changes are systemic in nature. And digitalization is a narrower concept, which means the reorganization of processes with the help of automation and digital communication. However, some dictionaries interpret digitization as a simplified form of the term “digital transformation” [2, s. 33-39].

The issue of digitization as a tool for improving or optimizing modern business processes has been studied by various scientists. Thus, Husyeva O. Y. and Lehominova S. V. believe that “digitalization is understood to mean a deep transformation, the penetration of digital technologies to optimize and automate business processes, increase productivity and improve communication interaction with consumers” [3, s. 50-54.].

The company's digitization system is based on regular and timely collection of information, its analysis and planning and forecasting of its activities on this basis. This system permeates all areas of the enterprise's life and, as a result, aims at their integration. It can be used in production, logistics and sales, financial and investment and innovation activities. The studied system largely coincides with the tasks of accounting: formation, accumulation, transformation and transfer of information for the purpose of making effective management decisions. The mentioned functions at the enterprise can be combined with others inside each of the subdivisions without forming a separate structure. However, the human factor also plays an important role in the development of the digitalization system, because special attention is needed to the constant improvement and development of personnel, the growth of the employees' qualifications in the field of digitalization.

The analysis of scientific sources showed that the definition of “digitalization of accounting” is not clearly formulated, only through related concepts. In particular, the authors Artem'yeva O. O. and Tomsha A. O. define the concept of automation of enterprise management (accounting as a management function) as a process that is “the basis of creating a highly organized environment that should combine information, telecommunications, software support, information technologies, networks, knowledge databases, other information media” [4, s. 50-54].

So, under the digitization of accounting, we will understand the possibility of complex use of various types of software for displaying economic transactions in the accounting. Thus, technological advances allow the accountant to interpret and process data faster and more efficiently than ever before. Also, digital accounting allows you to receive consultations in real time. More and more accounting specialists are abandoning the consultations of tax service specialists and using the opportunities for providing them to entrepreneurs by consulting companies in real time. Thanks to the digital accounting system, the data remains up-to-date. Using available data, a financial expert can analyze the numbers and suggest in real time the easiest and fastest way to improve them.

Today, the digitalization of accounting allows business owners and their accountants to perform functional tasks faster and more accurately, as well as interpret and prepare financial statements more efficiently. Thus, business owners can focus on their strategic goals and solve complex tasks, make effective management decisions, etc. However, digitalization of accounting does not

exclude the role of the accountant and does not diminish the importance of accounting procedures. Digitization of accounting makes it possible to speed up the accountant's work and make it more efficient.

Bahats'ka K., Heydor A. distinguish the following stages [5, s. 23-32] :

- digitization (use of an electronic form of a document instead of a paper one, automatic creation of a document using accounting computer programs);

- digitalization (creation of a legally significant electronic document with an electronic signature in accordance with the requirements of the laws "On accounting and financial reporting in Ukraine" and "On electronic documents and electronic document circulation" ;

- digital transformation (implementation of a whole block of management innovations) for decision-making using a complex of computer programs and "cloud" data storage services, which are consistent and form a closed cycle of the introduction of digital technologies into business processes.

And digitalization is not only a process of development, but also a challenge for specialists in the field of accounting. Having conducted a study of the prospects of the post-Covid labour market, she notes that according to her survey of graduates of accounting specialties, they state that only 45% of them are able to perform basic work with the help of modern automated accounting services.

Therefore, it is advisable for educational institutions to pay attention to improving the "digital" competencies of graduates and to focus the educational process on the application of modern digital technologies in the acquisition of professional skills by graduates.

Modern computer programs greatly facilitate the process of accounting, given the range of software offered: from calculators to automated registers and reporting forms.

From year to year, the profession of accountant is included in the ranking of the ten most popular professions in the labour market of Ukraine. In 2020, accountants and auditors ranked fifth, right after programmers, engineers (architects), designers, and managers of the hotel and tourism industry, ahead of lawyers, personnel managers, marketers, event managers, journalists, and food production technologists [8].

However, analyzing the results of the admission campaigns to educational institutions in recent years; it is worth noting that the number of entrants to the educational and professional program "Accounting and Taxation" is decreasing. Therefore, a paradox arises in the modern existence of the profession, which consists in the significant demand on the labor market for accounting specialists, because no enterprise, institution and organization of any form of ownership and field of activity can do without an accounting specialist, and on the other hand, its lack of prestige among future students.

Thus, we believe that the strengthening of digital accounting technologies in the medium term perspective is capable of bringing the development of the profession to a new level. A significant part of domestic enterprises in their activities use the main directions of digitalization in accounting: the expansion of the use of electronic document flow, the use of cloud technologies, computer accounting programs, remote (distant) work, which require the improvement of procedures both at the level of individual enterprises, the state, and at the interstate level of development of “digital” skills and improvement of qualifications of accounting employees.

Having analyzed financial and accounting portals and information sites for accountants, as well as summarizing the research of scientists, we can single out directions of digitalization for various fields of application with their software (table 1).

Accounting specialists prove that the collected data and automation systems by themselves do not yet give a positive effect, on the contrary, they require resources, attention, and service, despite the fact that each direction of digitalization is important and necessary, however, only their application in complex and in the system will provide the expected and effective result to solve complex tasks and make effective management decisions, etc.

According to the Law of Ukraine on accounting and financial reporting in Ukraine, six processes are distinguished in accounting according to its classical interpretation: detection; measurement; registration of accumulation; generalization; storage; transfer of information about the enterprise's activities to external and internal users for decision-making.

Currently, all these processes are fully or partially automated at enterprises in Ukraine. The most popular automated accounting systems used in domestic enterprises are: 1C:Enterprise, Debit-Plus, BAS Accounting, iBuh Online, SMARTfin.ua, Zarplata 24, TORGSoft, FIT Budget, KBS, BookKeeper, MASTER: Accounting, IT-Enterprise, etc.

Table 1. DIRECTIONS OF DIGITALIZATION IN ACCOUNTING

Direction of digitalization	Scope of application	Software example
Accounting automation	Carrying out regular operations of economic activity using computer programs	1C:Enterprise, Debit-Plus, BAS Accounting, iBuh Online, SMARTfin.ua, Zarplata 24, TORGSoft, FIT Budget, KBS, BookKeeper, MASTER:
Database of enterprises	Arrangement of information according to registers	Register of taxpayers, Register of insured persons of PFU, Unified state register of legal entities and
Electronic account of the taxpayer	An up-to-date guide to tax legislation of Ukraine, filing electronic reports, paying	Taxer, cabinet.tax.gov.ua
Information and reference systems	Provision of legal assistance, professional consultations	LIHA:Zakon, INFO-Dysk, Parus-Consultant, etc
Reporting	Online filling and automatic sending of reporting forms	MEDoc, Sota, BAS Accounting, iFin, Liga: Report, iBuh Online, electronic accounting Privat 24,
Calculators	Simplification of mathematical calculations taking into account changes in legislation	Salary calculator, Wage indexation calculator, Vacation period/number of (working) days calculator, Pension calculator, Tax return calculator, Fixed asset depreciation
Services for obtaining a qualified electronic signature (QES)	Online service for creating an improved electronic signature for submitting electronic reports to controlling state bodies, signing electronic documents, and obtaining state electronic services	Qualified provider of electronic trust services of the State Tax Service information and reference department (ETS IRD STS), KCC «Ukraine», MasterKey, DepositSignPortfel.ua, etc.
Electronic document circulation	Online service for creation, approval and signing of electronic documents	DEALS, Vchasno, Fredo etc.
Software register of settlement transactions	Carrying out settlement and cash transactions	Kashalot, SmartKasa, Checkbox, etc.
Other	Services to simplify the accountant's work	Designer of accounting entries, service for determining the codes of types of economic activity of CTEA

“1C:Enterprise” program is one of the programs for automated accounting and taxation features in accordance with the norms and requirements of our country's legislation that has been in Ukraine for a long time. However, by the Decree of the President of Ukraine No. 133/2017 dated 15.05.2017, the decision of the NSDC dated 28.04.2017 “On the application of personal special economic and other restrictive measures (sanctions)” was put into action.

These sanctions extended, in particular, to the software products of 1C. Even though sanctions have been imposed on the products of this developer since 2017, over the past several years, until February 2022, Ukrainian companies had a stable demand for “1C” specialists to use programs “1C: Enterprise”. The main arguments of enterprises against leaving Russian software are the lack of full-fledged analogues, the cost of switching to other systems and the complex system of tax accounting in Ukraine.

Alternative to “1C” are Ukrainian software products: “MASTER: Accounting”, FossDoc, IT-Enterprise, “Fit-Budget”, Bookkeeper, “Debit Plus”, “Dilovod”, Finmap, etc. Ukrainian programs have exactly the same functionality as 1C: payroll, production, trade, tax accounting, generation of reports, turnover list, reports for the tax office and statistics, management accounting, synchronization with banks, billing system and digital document management system, etc. Thus, the transition to software products of domestic production is a matter of time.

Therefore, the main task of educational institutions is the introduction into the educational process of various areas of digitization of accounting with the study of domestic software products with the aim of training future specialists in accounting and taxation for enterprises, institutions and organizations of any form of ownership and line of business. As mentioned above, a significant number of accounting programs are operating in Ukraine today. However, the domestic software product of LLC “MASTER: STREAM” is effective for the educational goals of the students, as well as the conditions of cooperation with the educational institution.

Cooperation with educational institutions of LLC “MASTER:STREAM” is intended to unite efforts in training all those who wish to learn and spreading information about Ukrainian innovative IT solutions and developments, as well as to contribute to the improvement of the quality of teaching based on the use of the computer program-platform MASTER in their methodical work . MASTER: Accounting is intended for the automation of accounting and tax reporting, in particular, the preparation of mandatory (regulated) reporting, in organizations that carry out any type of commercial activity: wholesale and retail trade, commission trade (including sub-commission), provision of services, production etc.

The significant advantages of this program are ease of use, high level of technical support, addressing all questions directly to the developer's employees

without intermediaries, an affordable price, as well as a demonstration base of the business automation program, which allows you to familiarize yourself with the interface of the software product.

Thus, summarizing the above, it should be noted that the application of various areas of digitization of accounting in the educational process for the preparation of future specialists in accounting and taxation, but specifically Ukrainian digital accounting products, is a very important and necessary procedure, because no enterprise regardless of the form of ownership can function without computer accounting programs.

The main purpose of software products is to make the accountant's work as easy as possible, relieving him of monotonous work and reducing the probability of errors to a minimum. Under such conditions, important competencies of an accountant should become [10]:

- hard skills (knowledge of law and accounting, business, information technologies and services, analytical skills, knowledge of languages);
- soft skills (intellectual abilities, the ability to acquire and use new knowledge, creative thinking, the ability to manage one's emotions, to predict the consequences of decisions, to respond flexibly to situations, interpersonal and intercultural relations).

Constant self-improvement, possession of the necessary competencies, understanding of business processes, changing the vector of activity in the direction of non-traditional functions make the profession of an accountant promising and important.

Conclusions

Digitization of accounting and its integration into the information system of business entities is a requirement of the modern digital era. The digitization of accounting should be understood as the possibility of integrated use of various types of software for displaying economic transactions in accounting. It is these technological advances that allow the accountant to interpret and process data faster and more efficiently than ever before. Also, digital accounting allows receiving consultations in real time.

The introduction of digitization of accounting, namely domestic software products, makes the accountant's work as easy as possible, relieving him of monotonous work and allows to reduce errors to a minimum, increases the efficiency of the company's activities, strengthens its competitiveness, and turns accounting into an art that “ensures success” for such an enterprise. Modern information and software is as important for the accounting of the enterprise as the organization of the accounting process, the availability of highly qualified employees, the document management system, etc. Accounting and taxation specialists with knowledge of domestic software products have wide opportunities and are in demand on the labor market.

Therefore, an important task that educational institutions face is the training of highly qualified specialists. Summarizing the opinions of scientists, we believe that the important competencies of an accounting and taxation specialist are not only knowledge of software products, information technologies and services, but also deep knowledge of law and accounting, business, analytical abilities and knowledge of languages – these are hard skills. Soft skills – the presence of intellectual abilities, creative thinking, the ability to manage one's emotions, predict the consequences of decisions, flexibly respond to situations, interpersonal and intercultural relations, etc. Training in domestic educational institutions should be aimed at the formation of such skills.

References

1. Lytvynov O. M. (2020) Didzhytalizatsiya na porozi tsyfrovoho dakhau. Derzhava i zlochyynnist?. Novi vyklyky v epokhu postmodernu. Kharkiv, s. 170-172 URL: <http://dspace.univd.edu.ua/xmlui/handle/123456789/9635>
2. Husyeva O. YU., Lehominova S. V. Didzhytalizatsiya - yak instrument udoskonalennya biznes-protseviv, yikh opty- mizatsiya. Ekonomika. Menedzhment. Biznes. 2018. ? 1 (23). S. 33-39 (data zvernennya: 14.04.2022).
3. Prokhorov M. (2019) Shcho take didzhytalizatsiya. Ukrayins?ke radio - radio platforma Suspil'noho movnyka Ukrayiny Natsional'noyi suspil'noyi teleradiokompaniyi URL: <http://www.nrcu.gov.ua/news.html?newsID=91042>
4. Artem?yeva O. O., Tomsha A. O. Bukhhalters?kyy oblik v umovakh didzhytalizatsiyi. 2020. S. 50-54. URL: <http://eprints.kname.edu.ua> (data zvernennya: 03.02.2022).
5. Bahats?ka K., Heydor A. Biznes-protsevy v umovakh didzhytalizatsiyi ekonomiky. Visnyk Kyyivs?koho natsional'noho torhovel'no-ekonomichnoho universytetu. 2019. ? 5. S. 23-32.
6. Pro bukhhalters?kyy oblik ta finansovu zvintnist? v Ukraini: Zakon Ukrayiny vid 16.07.1999 ? 996-XIV. URL: <https://zakon.rada.gov.ua/laws/show/996-14#Text> (data zvernennya: 03.02.2022)
7. Pro elektronni dokumenty ta elektronny dokumentoobih: Zakon Ukrayiny vid 22.05.2003 ? 851-IV. URL: <https://zakon.rada.gov.ua/laws/show/851-15#Text> (data zvernennya: 03.02.2022).
8. Naypopulyarnishi profesiyi rynku pratsi Ukrainy. URL: <https://mik.dcz.gov.ua/publikaciva/navpopulvarnish-profesivi-rvnu-praci-ukravinv>. (data zvernennya: 03.02.2022).
9. Pro zastosuvannya personal'nykh spetsial'nykh ekonomichnykh ta inshykh obmezhuval'nykh zakhodiv (sanktsiy) : Ukaz Prezydenta Ukrainy ?133/2017 vid 15.05.2017 r. vvedenni v diyu rishennya RNBO vid 28.04.2017 r.
10. Korol? S.YA., Klochko A.O. Hardsoftskills bukhhaltera. URL:<http://visnik.knute.edu.ua/files/2020/03/13.pdf>.

Abstract

The article examines the essence of digitalization, the role of digitalization in accounting under modern conditions and its directions. It was noted that digitization provides an opportunity to abandon paper accounting and traditional document management in general. The interaction of individual structural divisions is carried out at maximum speed, which allows using the saved time to increase labour productivity. In addition, the possibility of errors is reduced because the impact of the human factor is decreased, as individual modules of the digital infrastructure take over many important functions of employees. The need to introduce into the educational process various areas

of digitization of accounting with the study of domestic software products for the purpose of training future specialists in accounting and taxation for modern enterprises is substantiated.

Keywords: accounting, effectiveness of management decisions, educational process, digitalization

JEL Classification: M41,