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ORGANIZATION OF ACCOUNTING AND ANALYTICAL SYSTEMS OF BUSINESS ENTITIES IN THE AGRARIAN SECTOR OF UKRAINE

The author distinguished the accounting and analytical systems which differ by the content of the accounting and analytical information that is applied in the management of the agricultural entity. Main tasks of accounting and analytical systems of agricultural entities with taking into consideration separate groups of information users were characterized. Four groups of factors of organizing accounting and analytical systems were defined. The effectiveness of the main accounting and analytical systems' organization depends on the reliability of accounting and analytical information and the completeness of the information space formation with a minimal impact of information asymmetry on the financial security of agricultural enterprises. It is concluded that the main feature of the organization of accounting and analytical systems of economic entities in the agricultural sector of the Ukrainian economy is the necessity to take into account the peculiarities of the life cycle of biological assets as the main objects of such accounting and analytical systems, the season character of agricultural production and the needs of different groups of users of accounting and analytical information

Keywords: agrarian sector of economy, accounting and analytical support, accounting and analytical system, accounting and analytical activity, agricultural enterprise, subject of economic activity.

Problem statement. According to systematic approach the accounting subsystem shall be considered as an element of accounting and analytical system. The effectiveness of accounting and analytical systems of agricultural enterprises is vital for: the reliability of accounting and analytical information, based on which the business entities make necessary decisions in the agricultural sector of the Ukrainian economy and completeness of the information space, which is under the minimal influence of information asymmetry at the agricultural entities.

The current legislation in Ukraine regulates accounting by areas of economic activity. Thus, accounting performed in agriculture significantly differs from accounting in other sectors of the economy, first of all, the features of biological assets as objects of accounting and analytical process, their inventory at agricultural enterprises, cost of the produced and sold agricultural products also the identification of facts of thefts and notes when writing off tangible assets. This is how issues of organization of their accounting and analytical systems become actual.

Analysis of the recent publications. For the first time the term "accounting and analytical system" was introduced into the theory and practice of accounting in the middle of 1990's¹, and since then, all elements of the accounting and analytics system (accounting, analysis, audit (control) and planning) have been investigated together². In particular, the accounting and analytical system is considered in the narrow sense, as a system of accounting and reporting of any investigated enterprise, depending on the structure of the system and the specifics of the enterprise, as well as in the broad sense, as general principles and methods

¹ Сайфетдинова, В. В. (2016). Учетно-аналитическая система. Внутрифирменное бюджетирование: актуальные вопросы теории и практики. *Студенческий научный форум* <<https://scienceforum.ru/2016/article/2016020717>> (2020, January, 15).

² Будько, О. В. (2013). Формування цілісної обліково-аналітичної системи суб'єктів господарювання. *Економічний аналіз*, 12 (4), 192-196; Юзва, Р. П. Обліково-аналітична система – інформаційне забезпечення управління підприємством. *Облік і фінанси АПК: бухгалтерський портал* <<http://magazine.faaaf.org.ua/oblikovo-analitichna-sistema-informaciyne-zabezpechennya-upravlinnya-pidpriemstvom.html>> (2020, січень, 15); Яценко, В. Ф. (2014) Обліково-аналітична система багатосегментного підприємства: теоретичне обґрунтування й практична реалізація. *Бухгалтерський облік і аудит*, 11, 25-37.

that are universal for different subjects different spheres of economic activity¹. Additionally as a result of the analysis of recent thematic publications, it has been found that the term "accounting and analytical system" is associated with terms such as "accounting and analytical support" (the process of preparing accounting and analytical information, as well as the provision of quantity and quality of the latter)² and "accounting and analytical activity" (professional activities aimed at meeting the information needs of business entities)³. In retrospect, quite interesting is a monographic study of V.E. Shvets⁴, in which the methodological foundations of forming accounting and analytical systems of business entities in Ukraine were considered.

Analysis of recent publications has shown that an important problem of creating accounting and analytical systems in agriculture is their organization, which is necessary for the realization of the goals of the development of the management system of the entity. Developing organizational frameworks and designs for such systems will enable timely identification of internal revenue growth reserves by reducing costs and increasing product profitability.

Purpose. Article is aimed at researching the peculiarities of organization of accounting and analytical systems of business entities in the agrarian sector of economy of Ukraine.

Research results and discussion. Agro-industrial complexes, agricultural enterprises, farms and other economic entities in the agricultural sector of the Ukrainian economy, being open systems, use information flows in economic activity in order to make management decisions. It is important for them to possess knowledge about their external counterparties and of all internal business processes. The volumes of these information flows are extremely large and therefore require high quality level of generalization and concretization. The accounting and analytical system, which generates appropriate information is aimed at fulfilling these tasks.

Such information concretizes the specific areas of accounting of an agricultural entity, such as: accounting of biological assets, wages, land lease and taxation, inventory, agricultural machinery, etc. Additionally, accounting information includes a control subsystem to ensure the objectivity, reliability and efficiency of the agricultural accounting system. Accounting and analytical information is applied in management as well as in planning and forecasting of the agricultural entity's further activity.

Along with internal purposes, the accounting and analytical information is intended for decision-making by the management of a business entity in the agricultural sector of the economy. Besides this, the most of accounting and analytical information contains data on recognized expenses, as well as the cost of production and sales of agricultural products used to determine the amount of tax payments. It follows that the integration of all the above mentioned elements of the accounting and analytical system according to their functional correlation is mandatory, but the classification (typology) of the agricultural accounting system by type – is relative, because it is based on the leading functional aspects. Therefore, it is possible to organize such basic accounting and analytical systems, such as operational, tactical and strategic, which differ from each other by the content of accounting and analytical information, which is used in the management of an agricultural enterprise.

Hence in order to create an effective accounting and analytical system it is necessary to specify the main tasks, including:

- formation of an accounting and analytical system of preservation and movement of assets of an agricultural enterprise;
- monitoring the ownership of property and determining the level of responsibility of contractors within the accounting and analytical system;

¹ Сайфетдинова, В. В. (2016). Учетно-аналитическая система. Внутрифирменное бюджетирование: актуальные вопросы теории и практики. <<https://scienceforum.ru/2016/article/2016020717>> (2020, January, 15).

² Вольська, В. В. (2012). Методичні підходи до обліково-аналітичного забезпечення та аудиту управлінської діяльності аграрних підприємств. *Проблеми теорії та методології бухгалтерського обліку, контролю і аналізу*, 3 (24), 83-88; Титенко, Л. В. (2017). Напрями формування концептуальної моделі обліково-аналітичного забезпечення системи стратегічного управління. *Науковий вісник Міжнародного гуманітарного університету. Економіка і менеджмент*, 28, 234-238; Штангрет, А. М. (2015). Процес здійснення обліково-аналітичного забезпечення управління економічною безпекою підприємства. *Наукові записки Української академії друкарства. Економічні науки*, 2, 15-22.

³ Тринька, Л. Я. (2014). Обліково-аналітична діяльність суб'єктів господарювання: сутність та складові. *Вчені записки університету КРОК. Економіка*, 36, 181-188.

⁴ Швець, В. Є. (2010) *Розвиток обліково-аналітичних систем суб'єктів господарювання в Україні*. Львів: Видавничий центр ЛНУ імені Івана Франка, 448.

- ensuring the proper level of efficiency of management of an agricultural enterprise;
- monitoring the legal and socio-economic consequences of business operations in the reporting period.

Moreover, Table 1 shows typical tasks of accounting and analytical systems of agricultural entities by individual groups of users of information – shareholders and managers of the enterprise, accountants, agronomists and zoo technicians, economists and financiers, mechanics. In particular, the organization of an operational accounting and analytical system of business entities in the agrarian sector of the economy shall enable one to solve the problems of identifying deviations, establishing their causes, distributing responsibilities and prompt decision-making in order to eliminate the deviations found in the accounting¹.

In turn, the tactical accounting and analytical system of the agricultural entity involves the analysis of agricultural resources expenditures by composition and structure, comparative evaluation of past and current data, assessment of planned tasks, factor analysis of detected deviations, as well as control over the use of agricultural enterprise resources. Organization of a tactical accounting and analytical system allows to determine management decisions based on the total results of the agricultural entity's activity during the reporting periods, as well as to diagnose the financial status of the latter in order to prevent bankruptcy risks².

At the same time, the main tasks of organizing a strategic accounting and analytical system of economic entities in the agricultural sector of the economy is to provide opportunities to make choice concerning an indicator of their activity that affects the value of costs, an adequate mathematical function, as well as the method of forecasting the costs of resources of the agricultural entity³. The organization of strategic accounting and analytical system increases the efficiency of agricultural activity aimed at achieving strategic development goals, increases flexibility of management of the agricultural enterprise, and also provides information basis for making strategic decisions. Thus, the organization of strategic accounting and analytical system by combining strategic accounting and management reporting, analysis and control (audit) gives an opportunity to register, analyze the strategic indicators of the agricultural entity, monitor them, track and eliminate deviations, as well as search the most optimal strategic decisions⁴.

It should be noted that in the process of organizing an accounting and analytical system of an agricultural enterprise, one shall apply the criterion of comparability of expected benefits in order to manage the latter with the costs of its management, as well as to estimate the value of the accounting and analytical system to achieve the purpose of the agricultural enterprise. In addition, the efficiency of the organization of accounting and analytical systems for each economic entity in the agricultural sector will depend on five groups of factors: organizational, methodical, methodological, technological and sectoral⁵.

The group of organizational factors of accounting efficiency and analytical systems of an agricultural enterprise encompasses forms of accounting, accounting's organization and the procedure of control (audit) by the subject of economic activity in the agricultural sector, etc. Increasing the control (audit) is determined by the volume of agricultural activity, the area of rented and used agricultural land and the number of staff, necessitates the complex character of the accounting and analytical systems' organization.

In turn, special factors that are used in accounting, analysis and control (audit) are important factors in organizing the accounting and analytical systems of an agricultural entity, depending on the legal form chosen. These are the elements of accounting method, accounting procedures, comprehensive methods of analysis and evaluation of agricultural enterprise development, control (audit) methods, etc. It should be noted that agricultural entities in Ukraine operate on the basis of state and private property, the development

¹ Нецадина, Г. И. (2001) Учетно-аналитическая система управления затратами в малых предприятиях: диссертация на получение научной степени кандидата экономических наук. Москва: Московский государственный университет коммерции, 218.

² Нецадина, Г. И. (2001) Учетно-аналитическая система управления затратами в малых предприятиях: диссертация на получение научной степени кандидата экономических наук. Москва: Московский государственный университет коммерции, 218.

³ Ibid.

⁴ Цыганова, И. Ю. (2013) Стратегическая управленческая учетно-аналитическая система: строение и необходимость создания. *Международный бухгалтерский учет*, 40, 38-44.

⁵ Будько, О. В. (2013). Формування цілісної обліково-аналітичної системи суб'єктів господарювання. *Економічний аналіз*, 12 (4), 192-196; Рябенко, Л. М. (2015) Особливості обліково-аналітичного забезпечення стратегічного управління сільськогосподарськими підприємствами. *Науковий вісник Херсонського державного університету*, 12 (3), 207-212.

Typical tasks of agricultural accounting entities in the context of groups of users of information [based on sources¹]

No.	Users of information	Accounting and analytical information		
		Operative	Tactic	Strategic
1	2	3	4	5
1	Shareholders and managers of the enterprise	Collecting, storing and converting the data needed to solve production problems of any complexity	Control of the spent resources of the enterprise, the size and formation of its capital	Improving the efficiency of enterprise management taking into account the season character of production process
2	Accountants	Collection, storage, processing of accounting data, creating information about personnel changes; payroll; registration of all payment documents, accounting for the costs of biological transformation	Rational distribution of working time; automatization of calculation of holidays, sick leaves; adherence to the procedure for calculating and paying taxes	The automation of the accounting shall be conducted in accordance with current legislation; evaluates the activity of an enterprise engaged in agricultural survey organization
3	Agronomists and zoo technicians	Monitoring of the current state of biological transformations; decision making and analysis of actions' results	Conducting analysis of seed and fertilizer costs; formation soil testing reporting	Yield forecast for crop and livestock, and observance of crop rotation
4	Economists and financiers	Conversion accounting data about biological transformations, which are necessary to meet the financial and economic challenges of maintaining food demand stability	Analysis and planning of enterprise activity; determining the cost of production; preparing financial reports in accordance with applicable laws	Enterprise cost management; budgeting; cash flow forecast; rationalization of the system of financial flows in view of the season character of production
5	Mechanics	Keeping track of vehicle availability and movement	Minimization of labor costs for the operation of vehicles	Estimated consumption of fuel and lube oil and spare parts

of which is an incentive to find progressive methods of accounting for agricultural assets and sources of their formation². It is necessary to highlight that the partial decentralization of the accounting and analytical system of the agricultural entity is evidenced by differences in accounting, analysis and control (audit) in the subject, research methods and scope.

¹ GS GROUP (2020). *Облік у сільському господарстві: презентація* <<http://gs-group.pro/1s-oblk-v-slskomu-gospodarstv-uk.html>> (2020, January, 15); Рябенко, Л. М. (2015). Особливості обліково-аналітичного забезпечення стратегічного управління сільськогосподарськими підприємствами. *Науковий вісник Херсонського державного університету*, 12 (3), 207-212; Нецадина, Г. И. (2001) Учетно-аналитическая система управления затратами в малых предприятиях: *диссертация на получение научной степени кандидата экономических наук*. Москва: Московский государственный университет коммерции, 218.

² Мельник, К. П. (2016). Особливості бухгалтерського обліку в сільськогосподарських підприємствах. *Східна Європа: економіка, бізнес та управління*, 4 (04), 396-399.

Methodological factors of organization of accounting and analytical systems of the subject of agricultural activity are the concepts and directions of development of accounting, analysis and control (audit). For example, the concept of organization and operation of an accounting and analytical system of an agricultural enterprise may involve the use of procedural and regulatory methods of expenses accounting in determining the cost of agricultural products. For the purposes of planning and control the activities of structural units of an agricultural entity, the method of accounting by responsibility centers may be applied, whereas the method of calculating direct costs with the possibility of break-even analysis is used for the preparation of internal reporting¹.

The technical and technological factors of organization of accounting and analytical systems of a business entity in the agricultural sector of the economy include the set of modern, measures, methods, tools and techniques, used to conduct the process of accounting, analysis and control (audit). These are the stages of processing accounting and analytical information, software etc². Today, in most agricultural entities in Ukraine, partially decentralized accounting and analytical systems are automated owing to information technologies developed by specialized research institutes or programs created as so-called add-ons based on Accent, BAS software. Enterprise ", " 1C: Enterprise ", etc.

Sectoral factors of organization of accounting and analytical systems of a subject of economic activity in the agrarian sector of the economy include stable demand for agricultural products, dependence of the performance of economic activity on the fertility of agricultural lands and natural and climatic conditions, seasonality of agricultural production with the use of living organisms, the products of vital activity of which are interdependent and volatility in world agricultural prices³. Thus, the uneven use of resources, long time limits for agricultural production, irregular sales and revenue from its sale causes not only the imbalance of input and output cash flows, but also the uneven intensity of document turnover, and, consequently, the dependence of the volumes of information in the accounting and analytical system, from the seasonality of agricultural production. Besides this, biological assets, which are identified, authentically evaluated and controlled by the accounting and analytical system on different stages of their transformation grow or degenerate, produce or reproduce new biological assets and their products of vital activity.

Therefore, the effective functioning of an organized accounting and analytical system of an agricultural entity will facilitate the development and implementation of effective decisions aimed at achieving financial and economic sustainability, as well as increasing the level of competitiveness of agro-industrial complexes, agricultural enterprises, farms and other agricultural entities in Ukraine.

Conclusions. Among the peculiarities of the organization of accounting and analytical systems of business entities in the agrarian sector of the Ukrainian economy it is necessary to highlight the necessity to take into account the peculiarities of the life cycle of biological assets as the main objects of such accounting and analytical systems, the season character of agricultural production and the needs of different groups of users of accounting and analytical information.

The organizational components of the formation (creation) of accounting and analytical systems in agriculture are the applied methods, principles, rules of conducting, as well as procedures of all elements of the accounting and analytical system, which provide opportunities for solving topical problems of information support of the agricultural enterprise management and any specialists in the field of agriculture, and determine the synergy effect from its organization in the course of creating information flows, which is necessary for managing agricultural enterprise. At the same time, each accounting and analytical system of agricultural entities remains exceptionally unique in view of the diversity of their legal forms of economic activity, as well as the correlation of the performance of the main branches of agriculture in Ukraine.

Prospects for further research are the development of a mechanism for organizing accounting and analytical systems of agricultural entities in Ukraine.

¹ Довжик, О. О. (2012) Порівняння методів калькулювання та обліку витрат в сільськогосподарському виробництві. *Технологічний аудит та резерви виробництва*, 2, 26-31.

² Будько, О. В. (2013). Формування цілісної обліково-аналітичної системи суб'єктів господарювання. *Економічний аналіз*, 12 (4), 192-196.

³ Рябенко, Л. М. (2015) Особливості обліково-аналітичного забезпечення стратегічного управління сільськогосподарськими підприємствами. *Науковий вісник Херсонського державного університету*, 12 (3), 207-212.

References:

1. Budko, O. V. (2013). Formuvannia tsilisnoi oblikovo-analitychnoi systemy subiektiv hospodariuvannia [Formation of a Unitary Accounting and Analytical System of the Business Entity]. *Ekonomichniy analiz* [Economic Analysis], 12 (4), 192-196. [in Ukrainian].
2. Volska, V. V. (2012). Metodychni pidkhody do oblikovo-analitychnoho zabezpechennia ta audytu upravlinskoi diialnosti ahrarnykh pidpriemstv [Methodical Approaches to Accounting and Analytical Support of the Auditing of Managerial Activity of the Agricultural Enterprises]. *Problemy teorii ta metodolohii bukhhalterskoho obliku, kontroliu i analizu* [Problems of the Theory and Methodology of Accounting, Control and Analysis], 3 (24), 83-88. [in Ukrainian].
3. Dovzhyk, O. O. (2012). Porivniannia metodiv kalkuliuvannia ta obliku vytrat v silskohospodarskomu vyrobnytstvi [The Comparison of Methods of Calculation and Accounting of Expenses in the Agricultural Production]. *Tekhnolohichniy audyt ta rezervy vyrobnytstva* [Technology Audit and Production Reserves], 2, 26-31. [in Ukrainian].
4. Melnyk, K. P. (2016). Osoblyvosti bukhhalterskoho obliku v silskohospodarskykh pidpriemstvakh [Peculiarities of Accounting in the Agricultural Enterprises]. *Skhidna Yevropa: ekonomika, biznes ta upravlinnia* [Eastern Europe: Economy, Business and Management], 4 (04), 396-399. [in Ukrainian].
5. GS GROUP (2020). *Oblik u silskomu hospodarstvi: prezentatsiia* [Accounting in Agriculture: Presentation]. <<http://gs-group.pro/1s-oblk-v-slskomu-gospodarstv-uk.html>> (2020, January, 15). [in Ukrainian].
6. Riabenko, L. M. (2015). Osoblyvosti oblikovo-analitychnoho zabezpechennia stratehichnogo upravlinnia silskohospodarskymy pidpriemstvamy [Peculiarities of Accounting and Analytical Support of Agricultural Enterprises Strategic Management]. *Naukovyi visnyk Khersonskoho derzhavnoho universytetu* [Scientific Bulletin of Kherson State University], 12 (3), 207-212. [in Ukrainian].
7. Tytenko, L. V. (2017). Napriamy formuvannia kontseptualnoi modeli oblikovo-analitychnoho zabezpechennia systemy stratehichnogo upravlinnia [Ways of Reforming a Conceptual Model of Accounting and Analytical Support of the Strategic Management System]. *Naukovyi visnyk Mizhnarodnoho humanitarnoho universytetu. Ekonomika i menezhment* [International Humanitarian University Herald. Economics and Management], 28, 234-238. [in Ukrainian].
8. Trynka, L. Ya. (2014). Oblikovo-analitychna diialnist subiektiv hospodariuvannia: sutnist ta skladovi [Accounting and Analytical Activity of the Business Entities: Essence and Components]. *Vcheni zapysky universytetu KROK. Ekonomika* [Scientific Notes of KROK University. Economy], 36, 181-188. [in Ukrainian].
9. Shvets, V. Ye. (2010) *Rozvytok oblikovo-analitychnykh system subiektiv hospodariuvannia v Ukraini* [The Development of Accounting and Analytical Systems in Ukraine]. Lviv: Vydavnychy tsestr LNU imeni Ivana Franka. [in Ukrainian].
10. Shtanhret, A. M. (2015). Protses zdiisnennia oblikovo-analitychnoho zabezpechennia upravlinnia ekonomichnoiu bezpekoiu pidpriemstva [Procedure of Accounting and Analytical Support of the Enterprise's Economic Safety Management]. *Naukovi zapysky Ukrainskoi akademii druzarstva. Ekonomichni nauky* [Scientific Papers of Ukrainian Academy of Printing: Economic Sciences], 2, 15-22. [in Ukrainian].
11. Yuzva, R. P. (2020). Oblikovo-analitychna sistema – informatsiine zabezpechennia upravlinnia pidpriemstvom [Accounting and Analytical System – Information Support of Managing the Enterprise]. *Oblik i finansy APK: bukhhalterskyi portal* <<http://magazine.faaf.org.ua/oblikovo-analitychna-sistema-informatsiine-zabezpechennia-upravlinnia-pidpriemstvom.html>> (2020, January, 15). [in Ukrainian].
12. Yatsenko, V. F. (2014). Oblikovo-analitychna sistema bahato sehmentnogo pidpriemstva: teoretychne obruntuvannia y praktychna realizatsiia [Accounting and Analytical System of the Multi-Segment Enterprise; Theoretical Substantiation and Practical Realization]. *Bukhhalterskyi oblik i audyt* [Accounting and Audit], 11, 25-37. [in Ukrainian].
13. Neschadina, G. I. (2001). *Uchetno-analiticheskaya sistema upravleniya zatratami v malyih predpriyatiyah: dissertatsiya na poluchenije nauchnoy stepeni kandidata ekonomicheskikh nauk* [Accounting and Analytical System of Managing Expenses at Small Enterprises: dissertation for the degree of candidate of economic sciences]. Moscow: Moscow State University of Commerce. [in Russian].
14. Sayfetdinova, V. V. (2016). Uchetno-analiticheskaya sistema. Vnutrifirmennoe byudzhetirovanie: aktualnyie voprosy teorii i praktiki [Accounting and analytical system. Intercompany Budgeting: Topical Issues in Theory and Practice]. *Studencheskiy nauchnyy forum* [Student Science Forum] <<https://scienceforum.ru/2016/article/2016020717>> (2020, January, 15). [in Russian].
15. Tsyiganova, I. Yu. (2013). Strategicheskaya upravlencheskaya uchetho-analiticheskaya sistema: stroenie i neobhodimost sozdaniya [Strategic Management Accounting and Analytical System: Structure and Creation Necessity]. *Mezhdunarodnyy bukhalterskiy uchet* [International Accounting], 40, 38-44. [in Russian].