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## CONCEPT OF ACCOUNTING FOR TRANSACTION COSTS: PROBLEMS AND PROSPECTS

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**Abstract.** Research in the field of institutional economics has proved the importance of transaction costs in economic governance. However, it is quite difficult to obtain reliable data about the a of the enterprise transaction costs because transaction costs are not reflected in the accounting as a separate item.

The aim of this article is to explain the rationale of the concepts of accounting for transaction costs on the separate synthetic account and on the basis of analytical accounting data with the help of modern information systems. To achieve this goal, the authors reviewed existing approaches to the classification of transaction costs for the purpose of registration. The study analysed research works on the assessment of transaction costs' proportion in the economies of selected countries and Ukraine. The authors estimated transaction costs of the investigated agricultural enterprises according to accounting data. The study reviewed research approaches to obtain the data about the transaction costs' accounting in companies.

As a result of the research, the authors developed the methods of the transaction costs' accounting on the separate synthetic account and by the help of analytical data of ERP systems. Also, the authors proposed the classification of transaction costs, adapted for the opening of analytical accounts for accounting.

**Key words:** accounting, transaction costs, institutional economics, ERP.

**JEL code:** M41, M15, O43

### Introduction

The modern world is changing extremely rapidly. New products and new technologies are appearing. The rules of business are changing dramatically, new business processes arise and quickly displace the existing ones. Economic theory does not keep pace with changes in the practice of economic activity. This failure of the theory to meet the challenges of the real economy generates crises. Accounting responds to changes in economic conditions even more slowly.

More and more economists use positions of institutional and neo-institutional economic theories in their research. Today, there are made attempts to develop accounting on these principles. One of the most comprehensive works in this field is the monograph by Professor V. N. Zhuk (2013), where accounting is considered as an economic institution. Institutionalism is a fairly broad field of economic research, within which it is developing a series of economic theories. The basic ones among them are the theories of transaction costs, contracting, property rights, public choice, theory of agents etc.

The economic essence of the transaction costs was formed by such researchers as R. Coase (1937, 1960), J. Commons (1931), H. Demsetz (1968), D. North and J. Wallis (1986), O. Williamson (2001). These scientists proved the expediency of using the theory of transaction costs in business management. The main unresolved problem is the difficulty of obtaining reliable data on the rate, structure and dynamics of transaction costs. Thus, researchers who study accounting have to solve this problem. Issues of transaction costs' accounting in Ukraine are analysed in the works of such scientists as V. Zhuk (2013), H. Kireitsev (2014), M. Shyhun (2009), O. Kantsurov (2014) and others.

Studies have shown that in the economies of the developed countries transaction costs make up about half of all spending. Despite the considerable rate of transaction costs, they do not have a separate display in the accounting and financial statements, which complicates their assessment, analysis and management.

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In the research, the authors studied the current state and problems of transaction costs' accounting, analysed research works on the assessment of the transaction costs' proportion and estimated transaction costs of the investigated agricultural enterprises according to accounting data.

**Materials and methods.** The purpose of the article is to explain the rationale of the concepts of accounting for transaction costs, which will improve costs' management information system of an enterprise.

The tasks of the study are as follows:

- 1) to investigate the economic essence of transaction costs as an accounting object;
- 2) to estimate the proportion of transaction costs;
- 3) to summarize the existing methodology of accounting for transaction costs;
- 4) to develop a concept of transaction costs' accounting with the use of ERP systems.

The article used general scientific and specific research methods, in particular: abstraction, induction and deduction, analysis and synthesis – to assess the level of transaction costs; comparison – to study different models of accounting for transaction costs; graphic – to display the share of transaction costs in total costs, modelling – to build a transaction costs' accounting model with the use of ERP systems.

During the writing of the article, fundamental scientific literature on institutional economics and the theory of transaction costs, as well as contemporary research on the assessment and accounting of transaction costs were used. The research also used the results of the author's previous studies, financial statements of enterprises and statistical data.

## **Research results and discussion**

### **1. The economic essence of transaction costs as an accounting object**

Researchers of institutional economic theory draw attention to the costs associated not with production activities, but with ensuring the exchange of property rights – transaction costs.

Formation of the theory of transaction costs is associated with the articles by the Anglo-American economist, Nobel laureate, Ronald H. Coase, published with an interval of almost a quarter of the century, "Nature of the Firm" (1937) and "The problem of social cost" (1960). Investigating the peculiarities of firms functioning, R. Coase discovered and proved that the exchange of property rights in the market (transaction) is not free and thus introduced the concept of transaction costs for scientific use. He identified transaction costs as expenses related to the market mechanism use.

Researchers Shahab, S., Clinch, J. P., & O'Neill, E. (2018) justify the need to consider the impact of transaction costs even at the project planning stage. Researchers Jankova, L. Lazdins, A. and Auzina, A. (2022) emphasize the importance of ensuring the high efficiency of commercial transactions.

Yaremko, I., & Voskresenska, T. (2018) made an attempt to analyse the level of transaction costs in the economy of Ukraine and at the level of enterprises. They summarized the existing views on the accounting of transaction costs and emphasized the expediency of using information systems for their accounting. The researchers also drew attention to the fact that not all transaction costs are documented. A significant part of them is outside the document circulation.

Documentary confirmation of economic transactions is significant, because such transactions can be easily confirmed by audit data (Slobodyanik et al., 2022). And vice versa, the absence of a document does not allow to reflect transaction costs objectively.

Transaction costs, in our opinion, can be defined as costs liaising enterprise with the environment (contractors, commercial intermediaries) for the purpose of transactions as changes in property rights and

freedom, and include the costs of information search, negotiation, contracting and their enforcement. A significant source of transaction costs is the opportunistic behaviour of partners, as it is necessary to take measures to prevent and minimize the losses from improper execution of contracts.

Two behavioural assumptions as noted O. Williamson (2001), which are repeatedly referred to by the theory of transaction costs, affect the level of the latter – a limited rationality and opportunism. First, people-agents act intentionally in rational, but limited way. Secondly, people-agents do not always fulfil their promises, but back out of a contract whenever it serves their purpose.

The level of transaction costs largely depends on the institutional environment in which the enterprise operates. The better the institutional environment is, the easier transactions take place, and the costs of a transaction are minimal.

Producers who have attained the reduction of transaction costs, even at the same level as production costs, get substantial economic benefits.

For creation of an accounting method, it is important the correct classification of transaction costs. There are many options for classification. Most researchers attribute the classification of transaction costs to the stages of conclusion and execution of contracts. Based on R. Coase's works, the following classification can be used:

- costs of searching for partners;
- costs of communication with partners;
- costs of negotiations;
- costs of preparing and signing a contract;
- costs of ensure the executing of a contract.

## **2. Identification and assessment of transaction costs**

Almost immediately after introducing the category "transaction costs" for scientific use, the researchers were faced with the problem of their measurement. Scholarly views on the subject have evolved in two directions: measurement of transaction costs at the macro and micro levels.

One of the first and the most successful attempts to measure transaction costs at the macro level is considered the concept of transaction sector developed by J. J. Wallis and D. C. North (1986). The authors of the study rated the gross income generated in providing transactional services, compared with the total value of the gross national product of the United States.

The researchers subsumed the costs of banking operations, insurance, finance, wholesale and retail trade and others to transaction costs. The results show that the percentage of the transaction services in the gross national income of the US increased from 26.6% in 1870 to 54.9% in 1970 (Wallis and North, 1986).

Obtaining of the information about the enterprise's transaction costs is possible by use of various methods, including economic analysis, polling, expert estimation etc. We believe that reliable data on the level of transaction costs can only be obtained from the accounting data.

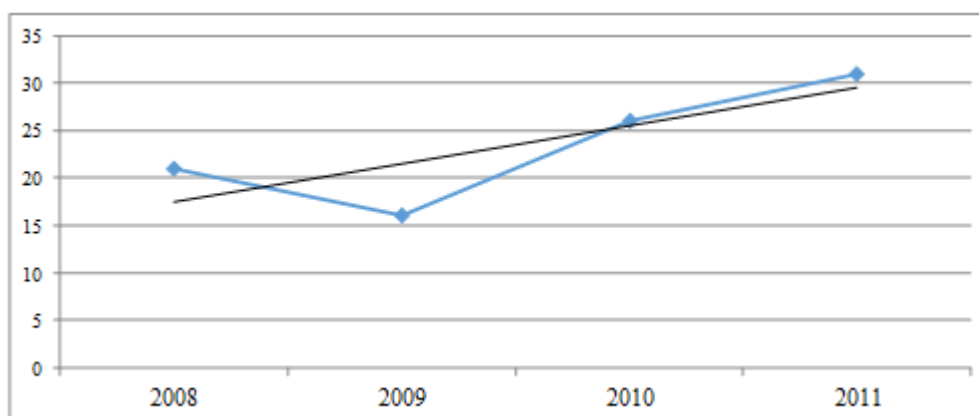
Analysis of transaction costs in the economy of Ukraine shows their significant rate. In the study by O. Kantsurov (2014), there were several methods used to assess transaction costs. In one of them, it was considered that transaction costs are all non-production costs such as administrative costs, costs for sales, and other operating expenses. As a result, the author found that during 2000-2011 the sum of transaction costs of business entities (excluding banks and small businesses) increased 6-fold – from 9,2 USD billion to 56,9 USD billion.



The rate of transaction costs in 2011 exaggerated expenditures of the State Budget of Ukraine by one third for the year, approved in the amount of USD 43,0 billion. In comparison to GDP (at actual prices) for 2011, the minimal transaction costs of the economy discovered according to the accounting data amounted to 34.5%. However, if you add taxes paid by end-users which are not included in the analysis of transaction costs on the basis of financial statements of entities, namely the tax on personal income – USD 7,6 billion, value added tax – USD 16,3 billion, excise tax – USD 4,4 billion, and import duties – USD 1,3 billion, the amount of transaction costs of the economy increases up to USD 86,5 billion. Hence, the minimum share of legal transaction costs of Ukraine's economy in GDP rises up to 52.4% (Kantsurov, 2014).

The high level of transaction costs in the economy of Ukraine is due to the low quality of the tax system, the high level of taxes. Total tax burden ratio reaches up to 50% (Homovij et al., 2018).

We analysed the data of financial statements of farms from the northern region of Ukraine. The share of transaction costs in the structure of total costs of these agricultural enterprises exceeded 20% (Figure 1), which also confirms the importance of transaction costs accounting and control (Lytvynenko & Tolstonog, 2015).



Source: calculated according to the author's own research

Fig. 1. The level and trend in changes of transaction costs percentage in the total costs of the studied agricultural enterprises in 2008-2011, %

More recent studies also indicate a high level of transaction costs (Table 1).

Table 1

#### Analysis of transactional sector of economy in Ukraine, 2010-2016

Indicators	2010	2011	2012	2013	2014	2015	2016
The total costs, UAH billion	1079,3	1138,3	1141,1	1140,8	1066,0	961,8	984,0
Transaction costs, UAH billion	460,6	479,9	482,5	493,2	460,1	426,3	431,8
The share of transaction costs in total costs,%	42,7	42,2	42,3	43,2	43,2	44,3	43,9

Source: Grytsaenko M., 2017

Although the volume of the transactional sector has declined, its share has increased from 42% to 44% in comparison to GDP. And it means that accounting and control of transaction costs need to be strengthened.

In the study by L. Gutsalenko, the author notes that in order to reflect reliable information in financial statements with regard to European demands and international standards of financial reporting, accounting control, as well as to analyse management tools and those reducing business risks in terms of agricultural



business investment, their impact factors should be investigated (Gutsalenko et al., 2018). Transaction costs are also a factor of influence.

To date, there is no reliable statistical data on the amount of transaction costs. To solve this problem, it is necessary to create a method of accounting for transaction costs. It will be a reliable basis for their evaluation and management of enterprise costs.

### **3. Concept of accounting for transaction costs on the separate synthetic account**

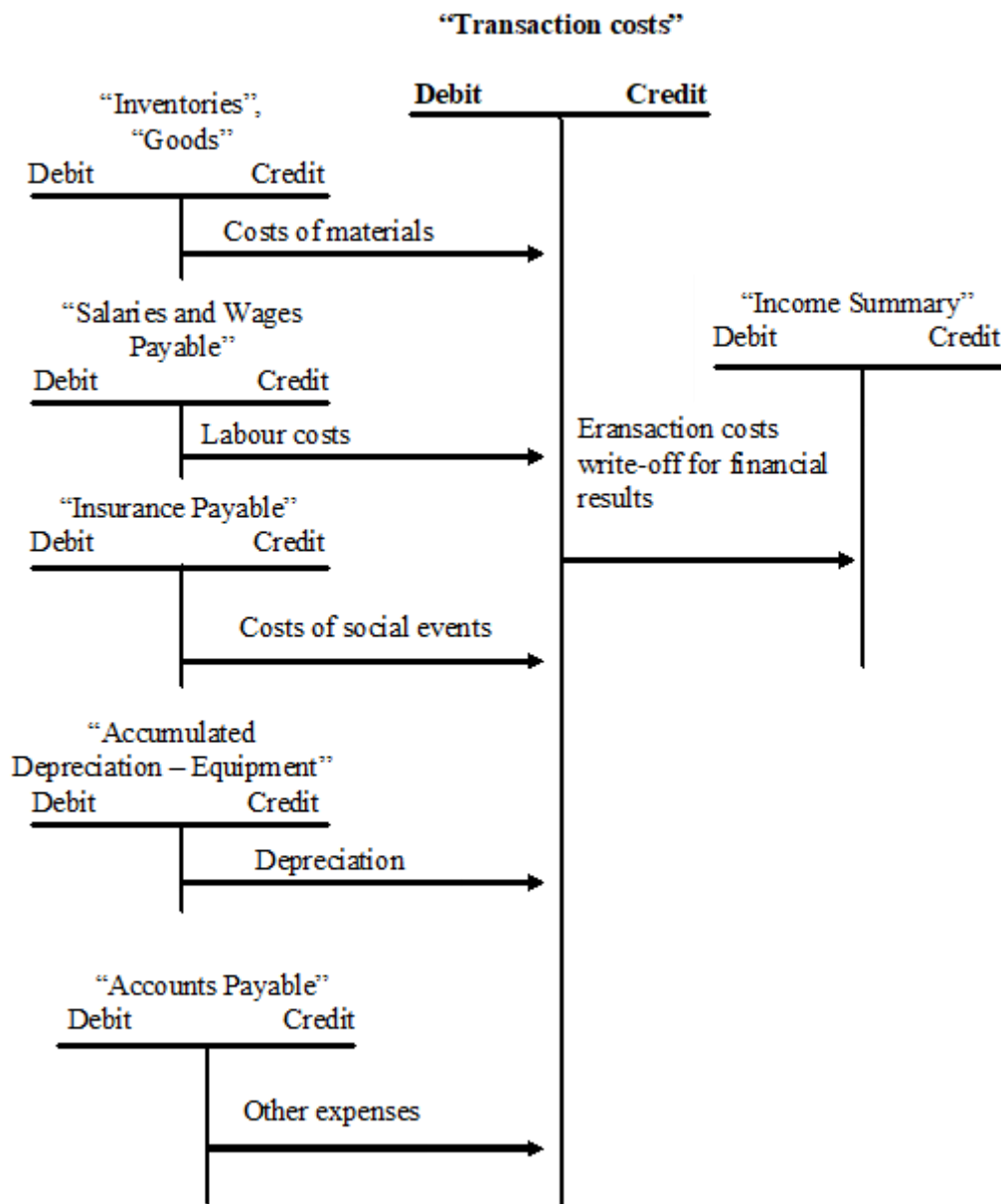
The scientific works on accounting for transaction costs offer a wide range of approaches to their accounting:

- analytical accounting of transaction costs;
- management accounting of transaction costs;
- construction of a new neo-institutional accounting model;
- using transit account "Transaction costs" etc.

However, each of these approaches has its drawbacks and insufficient substantiation. Therefore, it is necessary to implement measures to improve the accounting system. For this purpose, it is advisable to adapt the system of accounting to collect, check and summarize information about transaction costs. In the basics of organization of transaction costs' accounting, it is expedient to justify their intended purpose (Tomilova & Homovij, 2016).

Based on the research, we consider to develop a concept regarding the fact that it is appropriate to update the classification of accounting for cost and to provide separate synthetic account "Transaction costs" with sub-accounts. Sub-accounts should reflect transaction costs classification that would give information to analyse not only the dynamics, but also the structure of enterprise's transaction costs.

In general, the account "Transaction costs" is active. On the debit side, there will accrue costs in correspondence with the credit of such accounts as "Production reserves", "Depreciation (amortization) of fixed assets", "Payments for employee benefits", "Calculations on insurance" and others. The total cost accrued in the debit of the account "Transaction costs" at the end of the reporting period will be fully written off in the debit of the account "Financial results". Graphically, this approach is shown in Figure 2.



Source: author's own elaboration

Fig. 2. Chart of transaction costs mapping onto accounts

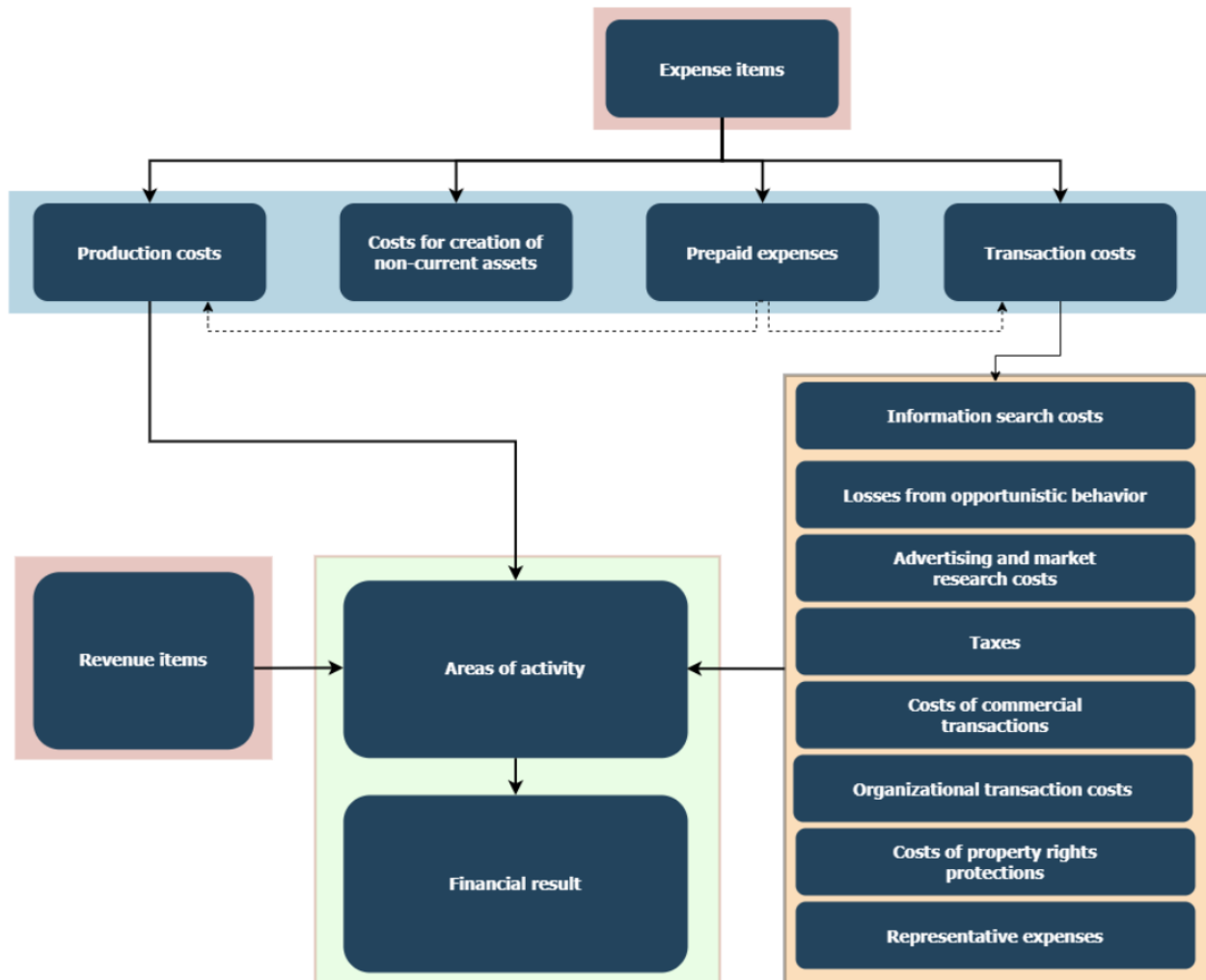
#### 4. Concept of transaction cost accounting with the use of ERP systems

The provided technique of accounting for transaction costs using the separate synthetic account is useful thus allowing displaying all the variety of enterprise's transaction costs. However, this approach requires significant changes in the accounting methodology, which greatly complicates its implementation.

In our opinion, the use of information technologies can solve the problems of accounting for transaction costs. The digital agenda is transforming our lives in many ways. The ways in which we both interact and conduct business are radically different from those in the environment of ten, and perhaps even five, years ago. Thus, the informatization and computerization of society has reinforced changes in technology, forms, methods of accounting (Spilnyk et al., 2022, p.222).

One of the promising technologies for enterprise cost management is the use of ERP systems. The efficiency of ERP systems' use for enterprise cost management is emphasized by researchers I. Sotnyk, K. Zavrashnyi, V. Kasianenko, H. Roubík & O. Sidorov (2020).

A significant advantage of cost accounting in an ERP system is that it can be organized by several cost classifications at the same time. Accordingly, it is possible to use such a type of analysis as expense items. This will make it possible to keep track of transaction costs without using of accounting accounts. In addition, we suggest keeping records of transaction costs according to the classification shown in Figure 3.



Source: author's own elaboration

Fig. 3. The concept of transaction cost accounting in the ERP system with the use of cost items

Accumulated transaction costs can be attributed to the costs of certain areas of activity or to the financial result of the reporting period. This method of accounting for transaction costs will allow to accumulate information about the amount and structure of transaction costs for their further analysis.

### Conclusions, proposals, recommendations

- 1) Complications in economic conditions and relationships between economic subjects, influenced by globalization, lead to higher transaction costs of enterprises. They become an essential object of accounting and control. However, a separate record of transaction costs does not exist. Transaction costs are accounted in other types of costs that complicates to their management. In this regard, the authors have proposed a concept of transaction costs accounting on a separate synthetic account.
- 2) In spite of significant number of existing classifications of transaction costs, it has become necessary to clarify the classification considering methodological features of accounting. The

classification of transaction costs, which was developed during the research, allows organizing their accounting on a separate synthetic account with the relevant sub-accounts and analytical accounts.

3) Displaying the transaction costs according to the proposed method does not require creating new forms of primary documents; however, it is reasonable to use the information and reports about transaction costs both in the whole enterprise and for its units. Organization of transaction costs' accounting on a separate synthetic account will improve analyticity and efficiency of information about transaction costs, provide obtaining of reliable data about the amount, structure and dynamics of transaction costs that will improve the efficiency of the enterprise cost management.

4) Using of information technologies provides new opportunities for transaction costs accounting. It allows accumulating large amounts of data, in particular about costs. At the same time, it is possible to keep track of costs according to several classifications simultaneously. A promising method of transaction costs' accounting is the use of analytical cost items in ERP systems. Accumulated data on transaction costs in the ERP system will be immediately used for enterprise management.

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