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## Contract theory: Selected issues of accounting and analysis

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**Abstract:** The article deals with some issues of accounting and economic analysis within the context of the contract theory, which was developed by O. Williamson. The article explored the essence of general contract theory, and the content of transaction costs. Analyzed the types of contracts for the purpose of their further classification. Specified the factors that influence the choice of a particular contract form. Developed the method of transaction costs calculation and the scheme of their workflow. For analyzing of contracts' performance indicators specified on the essential terms and cost indicators that reflect the evidence of obtaining cash. The author proposed the allocation of accounting functions as a branch of practical human activity.

**Keywords:** contract theory, types of contracts, transaction costs, accounting of contracts, analysis of indicators, contracts effectiveness.

## 1. Formulation of the problem

O. Williamson made significant contributions to the development of economic science and the wording of its postulates. Contract theory which was developed by him has a significant impact for the construction the theoretical, methodological and organizational bases of accounting contracts, payments for them, determination of their efficiency.



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## 2. Analysis of the recent studies and publications

Domestic and foreign professional literatures are largely focuses on the issues of methodology and methods of accounting and analysis. Along with this, issues of accounting and analytical reflection of the contract theory are not paid enough attention. The author used a number of O. Williamson's publications and other scientists to achieve the goal of the article.

## 3. Singling out of previously unsolved parts of the general problem

In this article is solved some issues of common problem on the necessity of contract theory study, accounting and analysis of the contracts implementation effectiveness. Thus in theoretical terms the most important focus turns to the allocation of accounting functions as a field of practical activities through the prism of contract theory.

## 4. Formulation of the aim of the article

The article aims are to allocate the contract theory, accounting of business operations, which related to the execution of contracts, the establishment of facilities accounting of operations for further reflection. In this article we will try to reach the goal by finding out the importance of accounting and analysis in managing the contracts.

Laying out of the main research materials. O. Williamson in his works [1-4] developed the concept of the firm as a single economic institution. In this case for accounting purposes it is important that his plan is aimed at reducing transaction costs, the formation of a coalition of owners of production factors that make up the network of contracts. The categories and concepts above are studied by accounting science, transaction costs and payments for the contracts are the subject of accounting.

Traditionally, the transaction costs are connected with obtaining the necessary data and information about prices, product quality, goods, carrying on negotiation, legal and consulting execution of contracts, conclusion of the agreements, control over their implementation, legal protection in case of violation of current agreements.

This scholar first proposed and described such classification of the main parameters of contracts highlighting their types in the aforementioned scientific works:

1. Classical contract is a contract between the two parties, which is built on the existing legal norms. All the essential terms of the agreement are accurately fixed and application of sanctions in case of failure to comply is predicted.

2. Neoclassical contract is a long-term agreement with the elements of uncertainties and probabilities. It is impossibility to predict all its consequences there. At the same time it allows all oral agreements.

3. Implicit contract is a long-term mutually beneficial contract. There informal conditions are more significant and prevail over formal.

According to O. Williamson, the choice of the particular form of the contract stipulates a number of factors, including:

- uniqueness (specificity) of resources that are exchanged between (causes the appearance of quasi rent is the basis for opportunistic behavior)
- the degree of uncertainty (imperfection of the information) that accompanies the agreement;
- frequency (regularity) of business relations between the parties.

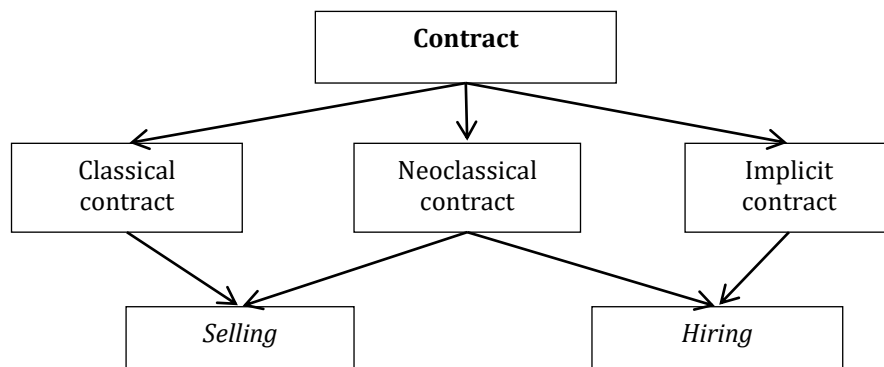
Thus, the contract is valid within the institutional framework and confirms the prospect or the fact of executing specific business transactions. As well as all institutions, the contract creates the preconditions for the interaction of its participants. This is particularly obvious in case of transactions with no coincidence of time between moments of their making and their implementation.

Such contracts are associated with the risk of circumstances which do not depend upon participants' intentions. We already noted that "the risk is objective-subjective category and in many cases is subjected to a mathematical miscalculation. To understand the nature of business risk and its content, its connection with the risk over time, with the costs and profits becomes fundamentally significant. The problem of the connection of these categories is one of the key concepts in the production and economic activities of the enterprises and in tasks of the management" [6, p. 99-100].

Sociology distinguishes people by the degree of risk perception. This can explain in practice the possibility of concluding two types of contracts: sale contract that regulates relations between neutral to risk partners and hire contract that allows neutral to risk people and its opponents to cooperate. This explains the fact that sale and hire contracts specifically and naturally are connected with the main types of contracts whose content varies by the subject, such as: classical, neoclassical and implicit (Fig. 1).

Also, O. Williamson classified resources into three main categories:

1. General Resources are those whose value does not depend on being in this company; both inside and outside they are evaluated equally.
2. Specific resources are resources whose value within the firm is higher than outside it.
3. Inter-specific resources are resources which maximum value is achieved only indirectly in this firm.



**Fig.1. Operations of selling and hiring in the system of contracts**

*Source: it has been developed by the author on the basis of A. Williamson's works [1, 4]*

The category of transaction costs obtained universally spread thanks to these works. They described their essence, which allows you to identify the following main types:

- costs of search or tracking the information;
- costs for carrying on negotiation and conclusion of contracts;
- measuring costs (qualification of hired employees, quality-made wealth)
- costs of specification and protection of property rights;
- 5) costs of opportunistic behavior.

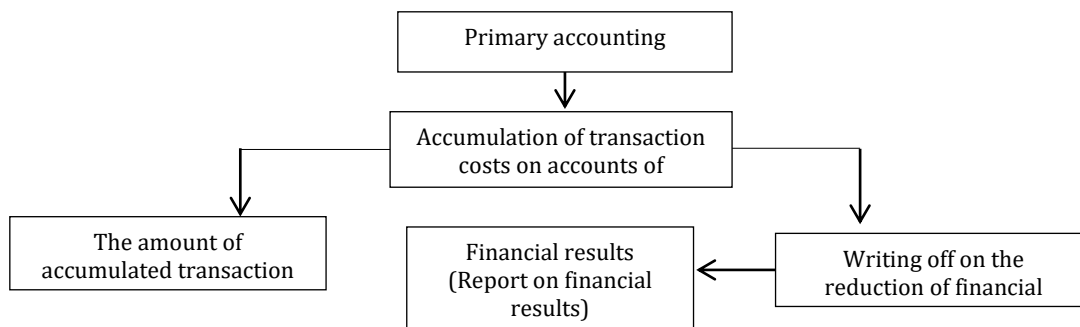
We have already noted that the transaction (i.e. types of interactions) should be classified according to the following criteria:

- according to the place of origin – internal and external regarding the organization;
- according to time – pre-promotional at the moment of conducting the transaction and post- contractual;
- 3. according to the type – general and specific; short-term and regularly repeated; directly or indirectly dependent on future events; stand-alone or ordinary with other transactions;
- 4. according to the kinds – costs for search of information; costs for carrying on negotiation; costs of measurement; costs of specification and protection of property rights; costs of post-contractual behavior.

Thus, transaction costs are unavoidable costs of an organization in conditions of market economy system. They are diverse in their content and their scope and structure in many respects are determined by organizational forms of enterprises, their internal and external contractual relationship. The analysis of transaction costs of consolidated enterprises groups will allow us to reveal the mechanism of functioning of enterprise associations which are legally separate entities [7, p. 83].

Considering the foregoing, reflection of transaction costs in accounting can be represented in the form of sub-accounts to accounts 92-94 (Table 1, figure 2).

Conducted expenses in correspondence with accounts of cash or stocks are reflected by the debit of these sub-accounts, and by the credit – their writing off on accounts by the targeted features for reducing financial results.



**Fig.2. The logical scheme of displaying transaction costs in the accounting system and reporting**

*Source: it has been developed by the author on his own.*

**Table 1. Reflection of transaction costs in accounting**

<b>Accounts</b>	<b>Sub-accounts</b>
92 "Administrative expenses"	921 "Costs on conducting organizational measures, carrying on negotiation and conclusion of a contract"
	922 "Costs on risk coverage by not concluding a contract"
	923 "Costs for legal assistance and clearance of contract"
	924 "Costs and losses due to non-fulfillment of contract terms"
93 "Selling expenses"	931 "Costs for standardization and certification of products, works and services"
	932 "The costs for market research and assessment of the market environment"
	933 "Information costs associated with finding of buyers"
94 "Other expenses of operating activity"	941 "Costs for conducting the audit and diagnostics of financial and economic status"
	942 "Costs for assessment of business"

Source: it has been developed by the author on the basis of IFRS and NS (P) of accounting

Every business entity can independently improve managing their transactions and accordingly the transaction costs on the basis of:

- choice of form and management mechanism by structural departments of the enterprise in general;
- rapid detection of suppliers of resources;
- forms of marketing for fast selling of goods on the market;
- search of own internal resources and reserves of foreign activity;
- own internal potential and attracted capital, investments;
- choice of rational form of management, diversification of activity;
- construction of communications with other business entities;
- analysis of the effectiveness of contracts.

To analyze the efficiency indicators of contracts we use their significant conditions and cost parameters that reflect the facts of obtaining money (Table 2).

Thus, the operation on the contract is effective if income exceeds its expenses related to its implementation. This shows the base rate of effectiveness of the contract.

If  $E_c^b > 1$ , then the contract is effective and its growth shows an increase in its profitability.

It is usually not enough the calculation of its base ratio of the efficiency for determining the effectiveness of the contract. Necessary to find out whether the sale of goods is more profitable operation than the sale of this product by other contracts (for example, for export). The alternative ratio for effectiveness of contract is used for this purpose.

If  $E_e^a > 1$ , export contract is more effective compared to the previous.

Thus, it is necessary to calculate the coefficient  $E_c^b$  та  $E_e^a$  in determining the effectiveness of the contract. It is worth mentioning that all elements should be presented in the same monetary evaluation. The basic contract

and selling the goods for export is effective in the case when both indicators are larger over per unit. If  $E_e^b < 1$ , a  $E_e^a > 1$  - basic contract is ineffective because the costs for its implementation are more than revenues. If  $E_e^b > 1$ , a  $E_e^a < 1$  - export of goods is inefficient because the profit from implementation of this operation on local markets will be higher than from its export. In case if both these coefficients are smaller than per unit, then the sale contracts of goods will be ineffective and less profitable.

**Table 2. The calculation of efficiency indicators of contracts**

№	Name of the indicator	Formula	Legend
1.	The basic coefficient of the contract efficiency	$E_c^b = \frac{S_c}{C_{pr} + T_{costs} + Tr_{costs}}$	$E_c^b$ - basic coefficient of the contract efficiency; $S_c$ - receipts obtained under the contract. $C_{pr}$ - commodity cost price; $T_{costs}$ - transportation costs; $Tr_{costs}$ - transaction costs.
2.	Alternative coefficient of the contract efficiency	$E_e^a = \frac{S_e - C_{pr} - T_{costs} - Tr_{costs}}{S_c - C_{pr} - T_{costs} - Tr_{costs}}$	$E_e^a$ - alternative coefficient of the contract efficiency of export operation;  $S_e$ - receipts obtained by exporting commodities;
3.	The basic coefficient of the contract efficiency of importing consumer goods	$E_{imp}^b = \frac{S_{ci}}{CV_{im} + T_{costs} + Tr_{costs}}$	$E_{imp}^b$ - the basic coefficient of selling efficiency of commodities under import contract; $S_{ci}$ - receipts obtained by selling commodities under import contract; $CV_{im}$ - customs value of commodities under the import contract; $T_{costs}$ - transportation costs; $Tr_{costs}$ - transaction costs.
4.	Alternative coefficient of the contract efficiency of importing consumer goods	$E_{imp}^a = \frac{S_{ci} - CV_{im} - T_{costs} - Tr_{costs}}{S_c - B_p^a - T_{costs} - Tr_{costs}}$	$E_{imp}^a$ - Alternative coefficient of the contract efficiency of importing consumer goods  $B_p^a$ - the value of the contract, which is similar to import contract

In considering the contract efficiency of importing consumer goods is important to establish their purpose. Firstly, let's consider the coefficient of the contract efficiency of importing consumer goods.

In order to contract of importing consumer goods will be effective, is necessary that import revenue exceeded import costs associated with its implementation. This reflects the basic coefficient of the contract efficiency of importing consumer goods.

If  $E_{imp}^b > 1$ , the contract of importing consumer goods was effective.

It is necessary to define alternative coefficient of the contract efficiency of importing consumer goods as in the case with the contract of importing consumer goods to determine the effectiveness of the contract for importing consumer goods.

If  $E_{imp}^a > 1$ , the contract of importing consumer goods was effective while its sales.

In institutional economy, the importance of accounting information for making prompt and reasonable management decisions regarding the fulfillment of obligations and contract concluding is rising. Accounting becomes not just a means of providing information and activity control, but it should be an instrument of influence on production, self-control, feasibility, substantiation and efficiency of implementing all the measures of production and financial nature. In the transition to the market the question of reorientation of information flows generated by accounting for the implementation needs of managing the enterprise is of particular methodological importance.

Earlier accounting had to provide only a clear influence on objects and the formation of data about current production processes and conclusions on the legality of certain business transactions in terms of the existing normative acts, nowadays management issues of production results both in an enterprise and in its units arise at the forefront in conditions of a competitive production. The information becomes the basis for making any

management, economic, engineering or scientific and technical decision. First of all it is a kind of indirect knowledge of the surrounding reality in the form of tangible or electronic medium for the purpose of operative intervention in business processes to avoid the risk of their execution.

Considering all the above mentioned and taking into account the results of accounting influence on the decision making process and contract concluding we may identify its following main functions: information, control, reporting, analytical, statistical, evidential and evaluation.

Information function plays a key role and involves the creation of defined amounts of data used by different users in a wide range of activities. These data may serve as the basis of business entities activities or their components (subsidiaries, holding companies, representative offices, etc.). The main purpose of such data is a direct use in the process of economic decision-making by the leadership and management in real-time, a source of strategy formation.

The control function is realized through various control measures, for example, documenting absolutely all transactions, verifying the compliance of certain types of activities with the business rules or the intended strategies. In case of deviations, the control function makes adjustments possible in order to restore the proper condition. Internal control includes all kinds of activities and methods by which we can conduct mutual comparison of the data contained in reports and documents. This allows users to rely on their speed, reliability, accuracy and compliance with regulatory-legal framework of the state, legislation and special rules.

Modern accounting cannot be limited only to the records of reporting formation. Its data must also be analyzed and if it's necessary amended with the aim of correct interpretation. This is the meaning of the analytical function of accounting. It manifests itself in the fact that accounting data make it possible to identify the problems and thus to make quick corrective decisions both in written form for the future, and directly in the operation process in real time. To establish the facts is not enough for implementing this function. We should examine the causes of certain conditions and events and develop specific measures in the work to eliminate the negative impact on the final result of the activity.

The function of reporting is connected with the preparation of various types of information, financial, tax and statistical reporting. They can be obtained in accordance with the drawing regulations systematically over the period of time. Reporting is the final "product" of data processing in accounting process and is the result of an activity during the period of its formation. It is formed to a certain legal framework and instructions for its preparation, approval and submission to the appropriate authorities.

The meaning of statistical reporting function is to provide data to gather information about the macroeconomic state of the region or the state as a whole. It is used by public institutions that shape economic policy of the country. Such data can be collected within the accounting system or transmitted in the form of statistical reporting to state institutions of general or regional scale. Special science, statistics, deals with it.

Another important function of accounting is evidential. It is implemented by storing all accounting documents for the defined period. Therefore, their presence allows controlling authorities at any moment in the procedure determined by law to carry out examination in order to establish compliance with legal norms, such as paying taxes, compliance with financial discipline.

General management and individual managers will be able to realize their own cognitive activity, but they need to receive full information on the specific facts and reasonable and verified argumentation on the basis of which they could make their own conclusions.

From this standpoint, the accounting information should be characterized by the following features:

- the relevance of information (expressing the fact that all the facts and arguments should be relevant to a given basic thought, idea);
- hugeness of information (diversity of argument that is used for substantiation of the basic idea);
- the depth of information (the degree of logical and scientifically substantiated positions);
- saturation of information (ratio of maximum flow of information with minimal time of its perception).

Thus, at this time there is an urgent need to prepare motivated conclusions about expediency and efficiency of business operations and processes using accounting. This leads to the fact that evaluation accounting function receives proper development along with other functions. With its help the result of an activity primarily on the basis of the use of economic and mathematical methods and constructing AWP should be determined in practical conditions. Its origin and use requires some development of new elements of the accounting method (prediction, matrices systems, linear equations, quantum methods) and additional theoretical research.

### **Теорія контрактів: вибрані питання бухгалтерського обліку та аналізу**

Михайло Лучко

**Анотація.** У статті розглядаються окремі питання бухгалтерського обліку та економічного аналізу в контексті теорії контрактів, що була розроблена О. Вільямсоном. Досліджено загальна сутність теорії контрактів, зміст трансакційних витрат. Проаналізовано типи контрактів з метою їх подальшої класифікації. Вказано на чинники, що впливають на вибір конкретної форми контракту. Розроблено



методику обліку трансакційних витрат та схему їх документообігу. Для аналізу показників ефективності контрактів вказано на їх істотні умови та вартісні показники, що відображають факти отримання грошових коштів. Запропоновано виділення функцій бухгалтерського обліку як галузі практичної людської діяльності.

**Ключові слова:** теорія контрактів, типи контрактів, трансакційні витрати, облік контрактів, аналіз показників, ефективність контрактів.

**Теория контрактов: избранные вопросы бухгалтерского учета и анализа**

Михаил Лучко

**Аннотация.** В статье рассматриваются отдельные вопросы бухгалтерского учета и экономического анализа в контексте теории контрактов, которая была разработана А. Уильямсоном. Исследована общая сущность теории контрактов, содержание транзакционных издержек. Проанализированы типы контрактов с целью их дальнейшей классификации. Указано на факторы, влияющие на выбор конкретной формы контракта. Разработана методика учета транзакционных издержек и схему их документооборота. Для анализа показателей эффективности контрактов указано на их существенные условия и стоимостные показатели, отражающие факты получения денежных средств. Предложено выделение функций бухгалтерского учета как отрасли практической человеческой деятельности.

**Ключевые слова:** теория контрактов, типы контрактов, транзакционные издержки, учет контрактов, анализ показателей, эффективность контрактов.

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