

Methodological Aspects of Formation of Chart of Accounts

Liliya Aleksandrovna Zimakova¹, Elena Ivanovna Danilina², Svetlana Nikolaevna Tsiguleva¹ & Galina Borisovna Dyachenko¹

¹ Federal State Autonomous Educational Institution of Higher Professional Education (Belgorod National Research University), Russian Federation

² Moscow State University of Instrument Engineering and Computer Science Stromynka, Moscow, Russian Federation

Correspondence: Liliya Aleksandrovna Zimakova, Victory street, 85, Belgorod, 308015, Russian Federation.
E-mail: Zimakova@bsu.edu.ru

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Abstract

The article raises questions about the methodological aspects of the formation of the chart of accounts, which depend on the singularities of national accounting systems, the users' information needs, and the problems solved by the system. The study identified three types of charts of accounts: the chart of accounts oriented to financial accounting, which is based on the matrix method of building, classification of accounts is based on the principles of the balance sheet and the traditional definition of financial results; the chart of accounts, which assumes detailing the cost accounting and allocating additional classes of accounts to determine the financial results of the production; the chart of accounts of the integrated accounting, allowing the formation of multi-sector information and the data exchange between the accounted subsystems.

Keywords: accounting, financial accounting, cost accounting, integrated accounting, chart of accounts

1. Introduction

The development and expansion of business have resulted in its growth beyond the borders of a single country; there is internationalization at all levels of the global economy through the creation of multinational companies and the active development of international stock markets. Thus, there is a common business space, which can effectively exist only in the presence of common good-working rules. The major component of these rules is the awareness of the business participants.

The main volume of information on the activities of a company is contained in the accounting system, which predetermines the methodology of forming the chart of accounts. Each country has its own rules of accounting and reporting. International Accounting Standards used by many companies regulate the rules of reporting, but not the accounting. Management of the current activity and preparing forecasts of a company's development is based on the accounting information prepared under internal rules. The chart of accounts of a modern company should allow generating information that would satisfy different groups of users. Studying charts of accounts as an integral part of national accounting systems allows determining the orientation of the specified system and the possibility of obtaining detailed information on a particular issue, which promotes the development of an optimal approach to the formation of the chart of accounts of international companies.

2. Methodology

Over a long period, under the influence of different trends of thought and action, bookkeeping accounts appeared and, simultaneously, grouping of these accounts was performed, which lays at the basis of the charts of accounts. A chart of accounts is the determining factor in the accounting system; it meets the goals and objectives of the system, and is closely linked with the forms of ownership, methods of pricing, tax policy of the government, funding methods, and principles of determining the final result of work.

The study examined the charts of accounts approved by the legislation of various countries (Germany, France, Vietnam, the Netherlands, Russia, Ukraine, Uzbekistan, Poland, South Korea), as well as the structured working charts of accounts of 20 foreign and 300 large Russian corporate entities related to various spheres of activity - production, the mining and processing industries, the services sector, agriculture, and others.

They were studied and grouped according to the problems solved based on them:

- Asset management of an enterprise and the sources of these assets formation;
- Preparation of reports;
- Control over the state of calculations;
- Determination of the cost of inventory balances necessary for the detection of the financial result;
- Calculation of the gross profit.

3. Results

The research allowed determining the factors that influenced on the formation of accounting systems. Among the internal factors, the most significant ones were identified, the effect of which was reflected in the development of the national plan of accounts: the dominance of theoretical concepts, the overall level of economic development, the dominant organizational and legal forms of business, the management accounting, the prevailing combination of interests of users of financial statements, particularly the national culture. Though the external factors influence on the development of accounting systems, they are less significant. The study of accounting systems allowed allocating some key lines of accounting, according to which charts of accounts were built:

- The chart of accounts oriented to financial accounting,
- The chart of accounts assuming in-depth cost accounting,
- The chart of accounts of the integrated accounting.

4. Discussion

4.1 *Internal Factors That Determine the Specificity of National Accounting Systems*

4.1.1 Peculiarities of the Development of Theoretical Concepts in the Field of Accounting

The Italian school has the most ancient roots, is oriented to the legal aspect of accounting (accounting stems from the relationship between the persons involved in the economic process, in connection with the movement and storage of values); the French school is characterized by economic interpretation of accounting; and the German school have studied the particular from the general, and the accounting has been based on the balance equation, from which all other accounting categories have stemmed from - thus, passive and active accounts appeared as well as mixed entries (Sokolov, Butynets, Goretskaya, & Pankov, 2007). There is much merit of the German school in the development of computer technology, creation of card forms of accounting, expulsion of the historical record (log) from accounting, the popularization of mathematical and statistical methods, as well as plans for unification of charts of accounts.

Theodore Limperg (the Amsterdam School) was the founder of the "Economics for Business" approach, which significantly affected the accounting organization. He treated the subject assets, primarily as a resource (Warner, 2001).

Much later than European schools, the Anglo-American school started developing. At that, the role of accounting changed - it became an instrument of management. The accounting was based on the natural meter, which allowed developing accounting inward, from synthetic to analytical accounting. As part of the school, the alternative direction was singled out - the management accounting.

The Russian accounting concept was formed under the influence of the German school, but there were distinct ideas. In particular, the concept of time was introduced in the accounting system; it was determined that there was no uniform industrial accounting, but accounting associated with industry sectors, etc. In Russia, they recognized two theoretical concepts - the exchange and balance concepts, and, therefore, accounting was of dual nature: various concepts dominated in the scientific circles, but in practice it served for the purposes of the state and obeyed to the principles of the administrative, financial, and civil law.

The national accounting system in Russia in the period of socialism was under tough pressure of the theories of political economy. Currently, reorientation of accounting and formation of new lines of the accounting development take place.

4.1.2 The Level of Economic Development

Uneven economic development creates problems of organization of the accounting process; moreover, administrative bodies support those standards, which allow solving the problems of society. Thus, one can identify the basic parameters of the economic situation, which have influenced on the formation of accounting systems:

- The development of capital markets,
- The number of investors and creditors,
- The country's participation in the international capital markets,
- The presence of inflation.

4.1.3 Legal Forms of Economic Activity

The prevalence of a certain form in each country influenced the development of certain areas of accounting. For countries, in which mainly small firms develop, there is no need for more detailed performance reports. In developed countries, where the leading position is held by large companies, the distinctive feature of which is the complex organizational structure, a special approach to the preparation of reports for various levels of management is required. The accounting information of such companies is complex and not always unambiguously interpreted, which determines the strict requirements to the level of accountants' proficiency. Countries with lower levels of economic development have simpler accounting systems due to the small size of enterprises and not strict reporting requirements. Formation and development of transnational corporations complicates the accounting organization system and produces very strict requirements to it (Danilina & Danilin, 2010).

4.1.4 Regulation of Accounting

The global practice shows that in the majority of countries, the multifaceted regulation of accounting takes place: the legal, professional regulation and the regulation related to stock exchanges.

The legislative regulation involves rigid definition of the norms and rules of accounting developed at the level of the government and targeting meeting the information needs of the state in the first place.

Professional regulation is based on the fact that accounting standards are developed by independent (from the government) professional associations of accountants. The standards assume a wide range of options, and thus satisfy the information needs of a wider range of users. In many countries, there are several professional associations of accountants.

The stock exchange regulation is based on the development of accounting standards that meet the needs of investors. To sell shares of a company on a stock exchange, it is necessary that the statements have been prepared according to specific standards (IFRS).

Categorizing the accounting systems, Mueller G., Gernon H., & Meek G. noted that in countries belonging to the Anglo-American model, standards are developed by independent professional accounting communities, and in the countries of the continental model, the public authorities develop and establish the basic methodological principles of organization of accounting and reporting (Mueller, Gernon, Meek, & Richard, 1991). The Japanese accounting system was attributed by C. Nobes to systems based on laws (Nobes & Parker, 2006).

Almost all Russian companies keep records in accordance with the legislative requirements; the exception are the enterprises that are under the simplified tax system. For them, the prevailing law is the tax law; therefore, they conduct accounting under the tax rules and regulations. According to E.S. Hendriksen, application of the same principles and methods in accounting practices and for the calculation of taxes is a deficiency rather than an advantage (Hendriksen & Van Breda, 2000).

4.1.5 Combinations of Interests: Of the Government, Business, and Employees

Dominance of various political forces in the country has an impact on the standardization of accounting. Very strong influence on the formation and development of accounting in Germany was caused by the political regime of National Socialists. The authorities were interested in the development of uniform standards of accounting, but the government actively intervened in the economic activities of companies, and the anti-individualism prevailed (Mislavskaya, 2004).

Strict regulation of the accounting rules at the level of legislative deeds is typical of countries with codified law (Germany, France, Italy, etc.). Profits generated in the accounting target meeting the needs of the government, managers, creditors, and shareholders, and political groups can influence directly on the accounting standards. In the common law countries, the accounting management system is permissive. At the same time, there are many versions of accounting systems, where there is no strict regulation and no national chart of accounts, the accounting is regulated by professional organizations (the USA, the UK, Canada, Australia, etc.). Since the most important stakeholders are the shareholders in these states, and the regulation of accounting is performed by professional associations, the profits reflects the real economic situation in the company.

4.1.6 National Culture

Grey S.J. emphasized the influence of culture on the national accounting standards (Grey, 1988, p. 12). Peculiarities of national culture manifest themselves in the psychological perception: e.g., in Germany, everything is forbidden if not permitted; in England, everything is allowed if not forbidden; in Iran, everything is forbidden, even if permitted by law; in Italy, everything is allowed, especially if it is prohibited (Walton, Haller, & Raffourner, 2003, p. 4).

Language is an essential part of the national culture. Translation of terms from one language to another can distort the content and understanding of the term. Therefore, most accountants communicating in one language (Germany, Austria-Hungary, Switzerland) belong to a single school. But even in same language countries (e.g., English), different terminology is used: in the USA - sales, in the UK - turnover; retained earning in the USA versus undistributed profits in the UK (Finance, 1998, pp. 133-134).

4.2 External Factors Influencing the Formation of Accounting Systems

- Political and economic situation (many developing countries for some time remained under the political and economic influence of the developed capitalist countries; in particular, Bernard Raffourner noted that colonial countries collectively exported their accounting systems in the area of their influence (Epstein, Nach, Epstein & Bragg, 2008, p. 375));
- The global economic situation (formation of economic groups, such as the European Union, the North American Free Trade Agreement and the Asia-Pacific Economic Cooperation, as well as the startling political changes in Russia, Eastern Europe, China, South America, and Africa have resulted in huge growth of the level international trade and foreign direct investments, and the financial reporting has become more important and necessary to promote better international financial understanding);
- International accounting organizations (development of national accounting systems results in the creation of international systems that use the basic principles of several national systems);
- International Financial Reporting Standards.

Though the chart of accounts, as an integral part of the accounting system, is based on the general principles of accounting, it reflects the peculiarities of national accounting systems and assumes defining a certain line as a priority; therefore, it plays an important role in decision-making.

4.3 The First Line Assumes First Priority Satisfaction of the Interests of Financial Accounting

The chart of accounts of this direction is represented by five sections, in each of which there are several classes of accounts, which allows obtaining as much as possible information meeting the needs of enterprises in calculating the financial results and determining the current and future financial state. The chart of accounts is built according to the matrix method: accounts are divided into classes, groups, and subclasses of accounts, and reflects the interconnection with the balance.

It should be noted that systematization of accounts was linked by most scientists with the balance (Cherboni, Schär, Berliner, & Schmalenbach, et al., n. d.) (Sokolov, 2000; Schär, 1925; Schmalenbach, 1928). Balance sheet accounts are permanent, have the balance as of the end of the reporting period, and allow forming the balance of a company, although the approaches to balance formation in each country have national peculiarities.

In particular, the US balance is based on the following principle:

Assets = Liabilities + Capital.

The continental balance: Assets = Capital + Liabilities.

The English balance: Assets - Liabilities = Capital.

The chart of accounts of each country permits adoption of a different number of classes of accounts: the charts of accounts of France and Germany have 5 classes of balance sheet accounts; the chart of accounts of Ukraine has 6 classes, the Vietnamese chart has 4 classes.

The chart of accounts of the financial line assumes that the inventory and 'work in progress' accounts are only used to reflect the balance of these resources without reflecting their motion in them. At that, those accounts should be singled out, which affect the final financial result: materials, work in progress, goods, finished products, goods shipped.

A group of a parent and a subsidiary company tends to use a single chart of accounts to facilitate preparing consolidated reports. It must include accounts or several characters in the code, which would identify the

account's belonging to the parent or subsidiary company. It is necessary to ensure that at reporting, they could eliminate painlessly and quickly:

- The amounts of settlements between the consolidated companies,
- Investments in the subsidiary companies,
- Operations with the revenue, expenditure, and income (in the case of selling within the group of consolidated companies)
- Financial results regarding incomplete intragroup transactions.

Each section of the chart of accounts of the financial line contains information to meet specific needs. The data of section I are used to define the financial result by comparing the differences of the balances of active and passive accounts as of the end and the beginning of the period. This result can also be determined by the types of activity according to the data of the individual or eliminative balances, based on the structured chart of accounts. Accounts of this section are the basis for the balance sheet (Zimakova, 2011).

Section II "Expenses-Income-Results" allows determining the operational financial result by comparing the income to the costs by elements, adjusted for changes in the balance of all the productive resources as of the end and the beginning of the period using the lowest value (the balance or market value). The operating result adjusted with account of the result of other activities is the commercial result.

Section III "Off-balance Accounting" is intended to control off-balance financing based on derivative balance sheet reports of the financing sources.

Section IV "Management Accounting". This section is based on the balance theory by J. F. Schär - the capital reflects preservation and increase of the net assets of an enterprise, relieved from debt; therefore, the financial result is calculated by the capital gain (Cooter, 2004, p. 35). The balance theory is developed and supplemented with modern trends of mixed opinions about the value of property, the theory of information asymmetries.

Based on a combination of the classical and modern theories in the circumstances of the existence of the disintegrated managerial and financial accounting within the framework of the chart of accounts, the following possible lines of organization of management accounting were identified:

- 1) Property management, which is performed using an organic and substantiative derivative balance statement (these reports contribute to obtaining the most efficient and objective information about the available property on the basis of the replacement cost and the fair value, as well as about how certain operations can affect the value of the property and the main estimates of the company value);
- 2) Operation of the financial state carried out based on the monitoring derivative balance sheet (it helps to determine the financial state in different time periods, taking into account current operations);
- 3) Management of solvency, for which an immunization derivative balance sheet is prepared, within which the state of solvency is controlled with account of the time difference regarding receipts and payments;
- 4) To manage the reserve system, the hedge derivative balance sheet is applied, which is compiled on the basis of risks insurance;
- 5) Risk management is based on a derivative balance sheet of the integrated risk; it is executed with account of the uncertainty and risks and allows creating optimal protection of an enterprise across the backup system of the enterprise;
- 6) Human resource management is performed using the behaviorist derivative balance sheet allowing to consider the available human resources and to determine their effect on the results and financial position of the enterprise (Shumeyko, 2013).

An enterprise may decide on something and produce something only to the extent, to which these processes will involve its managers; the company itself cannot work effectively (Warner, 2001, p. 319).

Section V "Financial Control" - assumes monitoring based on compiling derivative balance sheets and calculating net assets and net liabilities.

4.4 The Second Line Assumes Identifying the Cost Accounting as the Most Important One

The history of development of cost accounting is several hundred years long. As the time passed, the approaches to the organization of this particular accounting were changing and improving; and have been reflected in the used accounts. And as the accounting procedure was affected by the specific features of the level of industrial development of the industry, field, and the production technology, organizational structure, and others, they were

and still are reflected in the chart of accounts of the production line. The approaches to the development of the chart of account will be different taking into account the fact that the data of cost accounting are trade secrets, and, therefore, there shall be the opportunity to hide certain information from unauthorized users.

The peculiarity of Russian enterprises is the use of various approaches to cost accounting management. The study of foreign and domestic experience has given the opportunity to form a methodology for building a chart of accounts oriented to cost accounting. It is based on the possibility of determining the prime cost using different classes of accounting accounts, calculating the financial results, as well as additional classes of accounts for in-depth accounting of costs and finished products.

A typical feature of such a chart of accounts is the predominance of accounts designed for cost accounting and prime cost calculation.

The peculiar feature is the use of the "LIFO accounts" class. This group of accounts was considered by E. Schmalenbach and assumes the use of two accounts in the general scheme of cost accounting: originally, a part of the costs related to unused resources was accumulated in these accounts, and the costs of production of semi-finished and finished products that were not sold were returned to the LIFO costs accounts (Schmalenbach, 1928).

Allocation of this class of accounts is justified by the fact that stock inventory is not conducted at some companies; all the material resources of the supplier are received by production, and the finished products are stored in the production premises until they are shipped. Thus, in this account, the information about both used and unused material resources and inventories of finished goods is summarized. The balances of these accounts are important in determining the prime cost of manufactured and sold products.

Accounting costs by cost centers is one of the important components of cost accounting, as it allows calculating different types of costs and controlling costs at different stages of the production process.

The need for singling out the "Accounting of costs by cost centers" class of accounts is explained by the importance for the company to determine the consumption of resources by various production and economic lines (technological installation, operation, a department, a section, a team, and others). This class of accounts is typical of the charts of accounts of companies in developed countries, where the product orientation of accounting management is used (Austria, Germany, Luxembourg).

Most Russian companies perform accounting by cost centers, which are identified as the analytical attributes in the accounting. In Western European practice, a cost center is an organizational unit, group of units, or subsections of a certain organizational unit. The results of their activity are determined by comparing the actual and planned costs.

Identification of cost centers allows for:

- Comprehensive in-process control not only over the costs, but also over the performance,
- Differentiated and tiered distribution of overheads,
- Precise calculation of the prime cost of products and the work performed.

Organization of responsibility accounting allows:

- Using specific methods of cost management, taking into account the peculiar features of each unit (as the basis for allocation of responsibility centers is often the existing organizational structure),
- Associating cost management with the organizational structure,
- Decentralizing management of a part of the indicators,
- Observing the formation of costs and revenues at all levels of management,
- Assigning responsible persons for costs occurrence, profit and revenue receipt,
- Improving the effectiveness of the economic activity.

For companies that actively use the matrix organization management structure, the typical accounting is the responsibility accounting (Austria, China, Germany, Luxembourg, Sweden, and Switzerland). The following results of their activity may be used: earned income, profit of the center, effectiveness of capital investments, etc. (Brearley & Meyers, 2007/2014).

Back in the late 17th century, the necessity of cost accounting by functions was already discussed. Robert Hamilton emphasized the need for calculating the efficiency at each process stage. He treated linen production and identified three process stages: spinning, weaving, and bleaching (Tkach & Shumeyko, 2013, p. 70).

Currently, this line of accounting is actively developing, assumes more detailing of the accounting, which is reflected in the chart of accounts of manufacturing companies. For this, the following classes can be used: "Accounts of secondary distribution of costs by responsibility centers" and "Accounts of secondary distribution of costs by functions". However, in practice, one of these two classes of accounts is mostly used.

Professor J. Richard noted that an accountant thinks about the prime cost and selling price, and can hardly assume that unsold products will be assessed at the current market prices, and the national accountant, taking into account the macroeconomic observations, should evaluate products in stock at the current market prices (Richard, 2000). Thus, for erasing the line between macro and microeconomics, different approaches to the assets evaluation should be used. For these purposes, compiling derivative balance sheets is assumed, which would allow providing the financial control.

In the current circumstances, the production accounting has transformed into the management accounting, the role of which is gradually changing (Terekhova, 2007). According to Albright Tom and Lam Marco, it has evolved from the functions of measurement, evaluation, and specification of business operations in reports to equal membership in the team of the management science, marketing, finance, and other disciplines that make up the modern management initiatives (Tom, 2006, p. 157).

4.5 The Third Line Assumes Orientation to the Use of an Integrated Approach to the Accounting Organization

Many economists note that the majority of transnational companies seeking to improve the performance of their internal segments are on the path of using integrated accounting systems (Richard, 2000; Walton, Haller, & Raffourner, 2003). The advantage of an integrated accounting system is the single input of the initial information and its further diversified use.

The chart of accounts assumes allocation of the classes of accounts of financial orientation (the balance sheet accounts), certain classes of accounts of cost accounting (the primary and secondary accounting), and accounts for the transmission of information integration.

Integration of the accounting data can be achieved using:

1) Roll-forward accounts, which provide for numerical reconciliation of data of different types of accounting and identification of possible discrepancies. At the same time, the accounts of reflecting costs by elements are applied: 30* "Material costs", 31* "Labor costs", 32* "Deductions for social needs", 33* "Depreciation", 34* "Other costs", 39* "Balance productive resources". Thus, management accounting details information and uses it in various fields.

2) Analytical attributes. In the charts of accounts in some countries, multivalued encoding of accounts is used, and analytical attributes are included in the encoding. In the Russian practice, analytical attributes are not encoded, and the various goals being solved by each of the accounting systems allow for the possibility of mismatching analytical attributes of accounts of the financial and cost accounting. All of this can greatly hinder data integration.

3) The transferring (transit) accounts. Through these accounts, information is transferred from the financial accounting system to the system of cost accounting, in each of which it is detailed in the chosen line.

The chart of accounts of integrated accounting most comprehensively meets the needs of both production and financial managers. It identifies the sections of accounting by cost centers, responsibility centers, and functional centers. Different financial results, which characterize the performance of both units and the company as a whole, are formed. Management of the resource potential is performed using derivative balance sheets, and control is performed using the accounting and control points, zero balances, and mutual association of indicators.

5. Conclusion

Each accounting system has its own national character, which is reflected in the structure of the chart of accounts, and predetermines the directions of collection and processing of information, in-depth detailing, and obtaining information for management. Creation of international business companies not only promotes business amalgamation, but also integration of accounting data based on the modern information technology. This explains the emergence of charts of accounts of integrated accounting. At the same time, there is a need to develop a common methodological basis for the formation of structured charts of accounts for international companies that take into account the interests of different groups of users.

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