



Microeconomics

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**ORGANIZATION
OF INVENTORIES ACCOUNTING
IN THE PAPER-PULP INDUSTRY
WITH THE CONSIDERATION
OF THE TECHNOLOGICAL
AND INTERNATIONAL REQUIREMENTS**

Abstract

The new components of the inventories are investigated, their peculiarities are defined, and the technological classification of the inventories of the paper-pulp industry according to the international standards and requirements is offered in order to provide the proved mechanism of analytical accounting.

Key words:

Accounting, inventories, classification, paper-pulp industry.

JEL: M41, L69.

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Thanks to the proper organization of the accounting, the level of the inventory expenditures is declined; the time for working out the information concerning the rise of the efficiency of accounting data formation in order to settle the managerial solutions is curtailed. This increases the possibilities of timely response on the negative developments, which occur during the economic operations and processes connected with the inventories.

The paper-pulp industry of Ukraine is characterized by the great volumes of the inventories usage and their gradual increase in connection with the expansion of production and the ratio of the inventories in the cost composition of the paper-pulp industry is more than 60 %, that is why the value of the accounting and internal control permanently increases.

Such native scholars as F. Butynets, S. Holov, Z. Hutsailiuk, Ye. Kaliuha, M. Kuzhelnyi, M. Pushkar, N. Tkachenko investigated the problems, connected with the organization and methodology of the accounting and control of inventories. But a number of practical and theoretical problems, concerning accounting and control of inventories need to be investigated and developed.

Inventories are assets in the form of productive supplies, expendable supplies, work in progress and finished commodity, which are kept in the storages of enterprises, are in the manufacturing process and have to output, operate and sell products for the purpose of getting the economic benefits from the normal course of business. It is important to prove scientifically the optimal classification of these values for the purpose of accounting.

The background of the inventory accounting construction is their classification [70]. The reliability of the inventories analytical accounting depends on the rational choice of the classification criterion.

R. Kosmina offers to use the economic and technical classification. This point of view is rational because the economic classification shows the role of the value of the inventories in the manufacturing process, and technical – grouping of inventories, according to the technical features. For the paper-pulp industry, such classification is vital, inasmuch as it concerns brands, thickness and humidity and other technical features of inventories, which in future will be important while defining the quality of the goods manufactured.

Inventories as an economic classification and natural and clothing elements are the one and undivided. The classification according to its designated purpose is necessary to prove the value of standard and operating management organization.

The grouping of the inventories is an important condition of the rational organization of the inventories accounting. Classification not only lightens the work of bookkeeping workers, moreover, it is necessary for the effective control

as the inventories remains in the storages of the enterprises within the bounds of needs.

On different enterprises, the inventories can have different designation, depending on the function, they are doing in the process of manufacturing. Therefore, it is important to group the inventories correctly according to their designation and role in the process of manufacturing and other classification features:

- 1) according to designation and reasons of formation;
- 2) according to the place of location;
- 3) according to the level of availability in the enterprise;
- 4) according to the availability at the beginning and in the end of the financial period;
- 5) according to balance;
- 6) according to the level of liquidity;
- 7) according to the origin.

As the whole, it is important to have different productive supplies for the manufacturing of the different kinds of products of paper-pulp industry. Besides it, their content is also different depending on the kind and quality of product. Here, it is said about the humidity, ash content, galipot spending, the content of fibrous and afibrillar materials. For example, while producing the printing paper, the humidity of the composition formulation should be not more than 7,4 %, ash content – 8,4 %. The ash content of the wallpaper can be 5 %, humidity – 7,2 %.

The coefficients of humidity and ash content can be also the base of the classification of the paper-pulp industry. For that purposes, the interest margins should be distinguished. The practice of the paper-pulp industry enterprises confirms that such approach can be recommended: according to the humidity: I group (I grade) – humidity from 5 to 5,5 %; II group (II grade) –from 5,6 to 6,5 %; III group (III grade) –from 6,6 to 7,45. We should distinguish 4 groups according to the ash content.

During the last years, there were structural changes in the composition of the raw materials in the paper-pulp industry. That is why in the paper-pulp industry the components of inventories should be itemized.

In the total of the world production of paper and cardboard, 25 % of wood pulp is waste paper, 75 % - vegetable fiber, among which 65–70 % are conifer wood pulp, 20–25 % – broad-leaved wood pulp and nearly 10 % – non-woody paper pulp. Taking into consideration the high specific weight of the mentioned components it will be feasible to separate them and show the composition of semi-finished product, which is used in the paper-pulp industry.

In the cardboard and paper industry the wood pulp of different kinds of woods and non-woody vegetable raw materials are used.

For the dominants of the paper and cardboard the vegetable fiber is and will be the main feedstock, because they are more accessible and cheaper and are created from the self-renewable feedstock and don't disturb ecological balance in nature.

Wood pulps taken even from one plant raw material have different qualities depending on the way of their getting. Therefore, it is very important to know these qualities and their influence on the quality of the end product. Quality of products depends on the kind of semi-finished product which enter the enterprise – in dried condition as a commodity product or in liquid condition from the neighboring manufactory, where is produced. In the last case, the production is more qualitative with less power consumption. But it is possible in the case when there is a paper factory in the system of combine of complementary industrial plants.

Fibers, which are used for producing of paper and cardboard, are divided into the wood pulps, got from the wood and non-woody plant raw materials and non-plant fibers (synthetical, artificial, mineral, wool). Accordingly, in the accounting they should be classified into the groups. Vegetable fibers, which are used in the paper-pulp industry, are divided into three groups: textile fibers (cotton, flax, spur, frames, and binder) – have a little xylogen and are colored by the chlor zinc iodine into the wine red color. Cellulose fiber – coniferous, deciduous, straw, reed and bamboo cellulose, 6 % of xylogen, colored by the chlor zinc iodine into the violet color. Aggregations of high yield, semicellulose of different kinds have 6 % of xylogen and colored by the chlor zinc iodine into the yellow color. Taking into consideration that all the named peculiarities have a significant effect on the quality of produced paper, it is necessary to provide the separate accounting of the mentioned raw materials in the system of the business accounting.

Depending on the species of wood (coniferous or deciduous) and the way of getting the cellulose from them and also depending on was the bleaching process or no, the sulfate coniferous and deciduous cellulose, sulfite coniferous cellulose, neutral-sulfite deciduous cellulose, bisulfite coniferous and deciduous cellulose, bleached and unbleached cellulose. Therefore, the analytical accounting of the given kind of raw materials should be organized according to the above-mentioned classification groups.

Vegetable raw materials, wood pulps are classified according to the yield from the bone-dry raw materials. According to it, they are divided into such kinds: cellulose (yield from the bone-dry raw materials is 45...55 %), cellulose of high-yield (55...65 %), semicellulose (65...85 %) and pulp of high yield (85...97 %). The higher semi-finished products yield, the more hemicelluloses and xylogen it has. Therefore, the quality of paper and cardboard essentially depends on the type of the used wood pulps.

Taking into consideration the technological peculiarities, it should be classified and accounted separately. It is recommended to distinguish such classification groups of cellulose: deinked cellulose; high-yield cellulose; semicellulose.

One more important component of the modern paper-pulp industry is pulps of high yield. It's relatively cheap and widespread wood pulp, which is the component of the different paper and cardboard types; its quality depends on the mode of its production. The usage of the pulps of high yield enables not only to depress the value of the finished goods but to improve its printing properties, to raise the opacity and smoothness of the paper. The advantages of the pulps of high yield are that in process of their production the plant raw materials are completely used.

The disadvantages of the pulps of high yield are their low mechanic value and instability of its properties while preservation and perceptibility during the influence of the light, warmth and humidity.

Economic and ecological purposes create conditions for the increasing of volumes of production and development of the new types of pulps of high yield which can be divided into four types: wood pulp, thermomechanical pulp, chemico-thermomechanical pulp, chemico-mechanical pulp. The use of the thermomechanical and especially chemico-thermomechanical pulp enables to shorten the expenditures of the cellulose in the production of the printing types of paper and cardboard, to improve their quality indicators. In the production of the newsprint paper it isn't compulsory to use the cellulose. Therefore, the last types of pulps of high yield are advanced semi-finished products; their production permanently grows and should be depicted in the system of analytical accounting.

A separate group should be created for the wood pulps of non-woody raw materials. Indeed, the potential resources of non-woody plant raw materials permanently reproduce. The world leaders which use the agricultural wastes and monocyclic plants in paper-pulp industry are China, Indonesia, Australia, South Korea, India, and Japan. For example, China, which is the third in the world in producing paper and cardboard, uses nearly 55 % of fiber made from rice and wheat straw and 15 % – made from reed and cane. The non-woody raw materials are widely used by all highly developed European countries, which have difficulties with the inventory stock of wood (Italy, Spain, France and England).

In order to get paper and cardboard we should have such types of non-woody plant raw materials: straw of grain varieties (wheat, rice, bread-corn); flax, hemp and cotton wastes, (flock and chaff); culms of industrial crops (flax, hemp, gumbo hemp, cotton, sunflower); overripe plants for animal nutrition (corn); wild plants (reed, cane); different kinds of dusters (wastes of textile and clothing manufactures without synthetical and man-made fibers, ropes).

According to the content of the main components and fiber length, the non-woody plant raw materials are divided into two groups. The first group consists of plant materials fibers and has 75–85 % of cellulose, 1–2 % of xylogen, have long strong fibers of more than 7 mm (cotton, bast fibers of flax and hemp). Special, high quality, valuable paper types and dissolving cellulose are made from it.

The second group consists of predominate (according to the absolute reserves) part of plant materials. It has 35–62 % of cellulose, 10–25 % of xylogen, 18–36 % of pentosans. Its fibers are shorter from the fibers of the first group (length 0,3...2 mm). This group requires more complicated chemical processing. Such wood pulps can be used in the production of different paper and cardboard types.

The one restriction in the given case is that from the point of view of the effective paper-pulp production, the plant raw material should meet such requirements: harvest, transportation and preservation of the raw materials should be mechanized and exercised with minimal material and labor costs; the quantity of the raw material should be enough for the uninterrupted supporting of the enterprise during the year; it is desirable the raw material to have constant morphological and chemical constitution; the processing technological modes should correspond to the specific features of the raw material and provide high technical and economic coefficients of production.

In the process of investigation and classification of the inventories of the paper-pulp industry it is important to pay attention on such type of the raw material as waste paper, which nowadays is the main raw material resource for the domestic paper-pulp industries (62 % of the general volume of the paper and cardboard production).

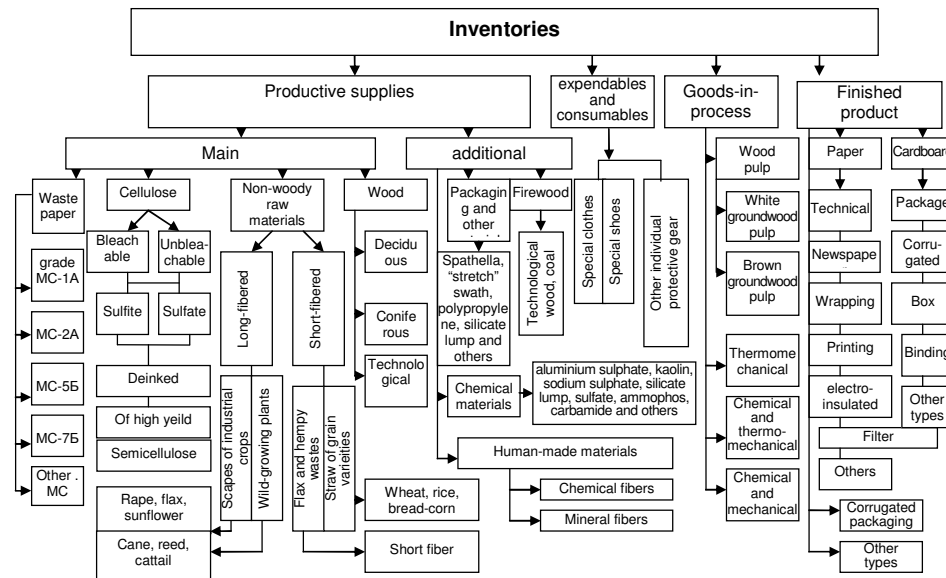
As a feedstock base it is recommended such grades for production: MC-5B (wastes and consumption of corrugated board, paper and cardboard, used in the production), MC-6B (wastes and consumption of all types of cardboard except electroinsulated, roof, and shank board) with black and white and colored print; MC-4A (the utilized paper bags without bituminous percolation, and reinforced layers). Taking into consideration all these marking we should build the corresponding classification in the system of accounting.

The technological peculiarities of the researched enterprises activity influence on the inventories classification. That's why the usage of the distinct scientifically proved classification will promote the effective management, early revelation of the deflections, reduction of production cost, and increase in enterprises' profits. Classification of the paper-pulp industry inventories for the purpose of rational organization of their accounting and control requires investigation of scientific accounting approaches and certain technical characteristics with their consideration in the accounting organization (figure 1).

The made suggestions on improvement of the inventory classification according to the technical features will provide the appropriate cost-effective use of resources and respectively the high financial results on the paper-pulp industries.

Figure 1.

The recommended technological classification of the inventories in the paper-pulp industry



The organization of the inventory analytical accounting according to the developed classification will promote the formation of the on-line data base in accordance with the availability of the itemized groups, formed by the materially responsible persons. Such approach will provide the wise utilization and economy of the assets, promoting the raising of efficiency of the internal control. One of the important components of the inventories is finished product. The main types of products of the paper-pulp industry are paper, cardboard and corrugated packaging. From the methodology and inventories accounting point of view, the classification of paper is very important. In the years 50–90 of the XX century, the paper was divided into special categories (classes). The classes were marked by the letters: A – for the print, B – for writing, U – for drafting and drawing paper, D – cigarette etc. The printing paper in its turn was divided into newspaper, bookish and journalistic, duplicating, cartographic, for documents, wrapping, base paper, wallpaper etc.

The bookish and journalistic paper was the most qualitative and had from 35 % to 100 % of cellulose. It was divided according to the intended purpose into printing (usual and thin –library print), lithographic, offset, and for gravure printing.

Six types of cardboard were produced: in polygraphic industry – binding cardboard, marked by the letter M. Its quality depends on the raw materials: brown, wood, straw, waste, rag cardboard was produced.

The classification mentioned above is out of date. It must be said that the international classification is not introduced in the paper-pulp industry up to now. This complicates the economic relations in the sphere of import and export.

After Ukraine's entrance into the International Trade Organization, the requirements to the standardization, codification and classification of the paper and cardboard changed.

The international classification takes into consideration the composition of the paper or cardboard. For example, the first letter in the code designation means the type of the surface treatment. The second letter in the code designation means the base of the composition. Next, the number is put in order to show the color or bulk.

The introduction of the standard system of designation is an urgent need but nobody cares about it. The corresponding encryption can be used to define the code of the analytical calculation of the finished product accounting; after all, the computerized systems of accounting provide the possibility of using the numeric-alphabetic formalization of information. Ukraine should adopt the international classification of paper in order to enable to settle the second methodological problem – the introduction of the subsidiary account of the bookkeeping to the account 26 «Finished Product». The development of the scientifically proved cost standards of the raw materials for the paper production will provide the possibility of the effective control of overexpenditures or losses.

Considering all these requirements, the Card of Accounts of the paper-pulp industries should be amended, that is to say, the schemes of the synthetical accounting should be changed.

In such a way, the improved classification of the paper and cardboard, considering the technological peculiarities of the paper-pulp industry, which coincide with the international standards and requirements, will increase the analyticity of the accounting and deliver the information for the international partners without oversampling, additional regrouping and recosting. Its usage will enable the effective control of the raw materials balance in the enterprise storage and their proper use in the production process.

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The article was received on December, 21, 2009.