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## PREDICTION OF THE COST OF THE ASSORTMENT OF SEWING AND KNITTED PRODUCTS

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### ABSTRACT

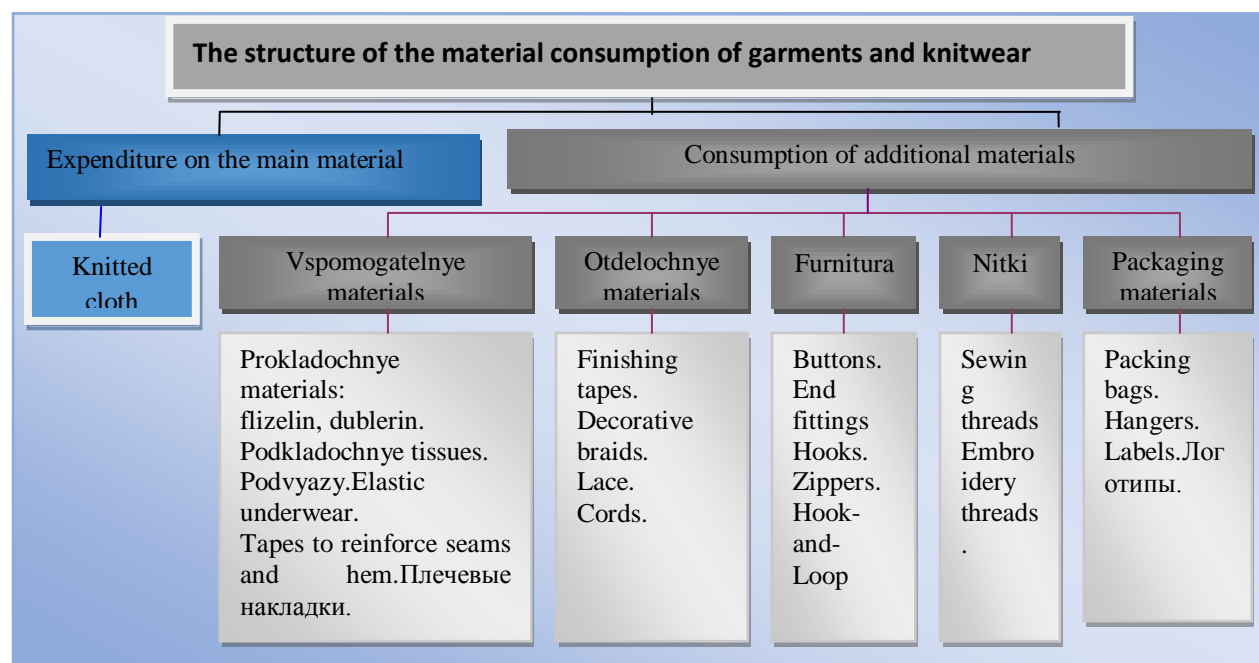
*This article presents a systematic analysis of the material costs of garments and knitwear. Information data on the main and additional materials are the basis for the development of mechanisms for predicting material consumption at the stage of sketching a new model. In conditions of unstable assortment, the life cycle of products, especially knitwear, is constantly decreasing. Manufacturers have to adapt to the frequent change of assortment. In these situations, it becomes necessary to minimize the cost of its development. The task of predicting the economic efficiency at the stage of the preliminary design of a new product becomes urgent, which will save the cost of manufacturing a prototype.*

**KEYWORDS:** *Product Life Cycle, Assortment Changeability, Forecasting, Draft Design, Material Consumption, Prime Cost.*

## INTRODUCTION

In conditions of unstable assortment, the life cycle of products, especially knitwear, is constantly decreasing. Manufacturers have to adapt to the frequent change of assortment. In these situations, it becomes necessary to minimize the cost of its development. The task of predicting the economic efficiency at the stage of the preliminary design of a new product becomes urgent, which will save the cost of manufacturing a prototype.

In modern sewing and knitwear, much attention is paid to finishing materials and accessories, especially in products of a high value category. [1,2]. For a comprehensive forecast of material consumption, it is necessary to identify what share of the cost of a product is the cost of basic, applied, finishing materials, sewing threads and packaging. Therefore, it is necessary to conduct an appropriate analysis of the structure of the material consumption of garments and knitwear. The structure of the material consumption of garments and knitwear includes an assortment of basic and auxiliary materials (Photo 1).



**Photo1. The structure of material costs of garments and knitwear.**

In order to study the structure of the material consumption of garments and knitwear, an analysis of the manufactured models of industrial enterprises has been carried out. The results of the analysis made it possible to conditionally divide the types of garments and knitwear into 3 main groups, where the I-group is the assortment of upper products; jackets, trousers, skirts in which up to 84% is achieved by the consumption of the main material, i.e. knitted fabric, 4% auxiliary materials, 1% finishing materials, 5% accessories and up to 6% sewing threads.

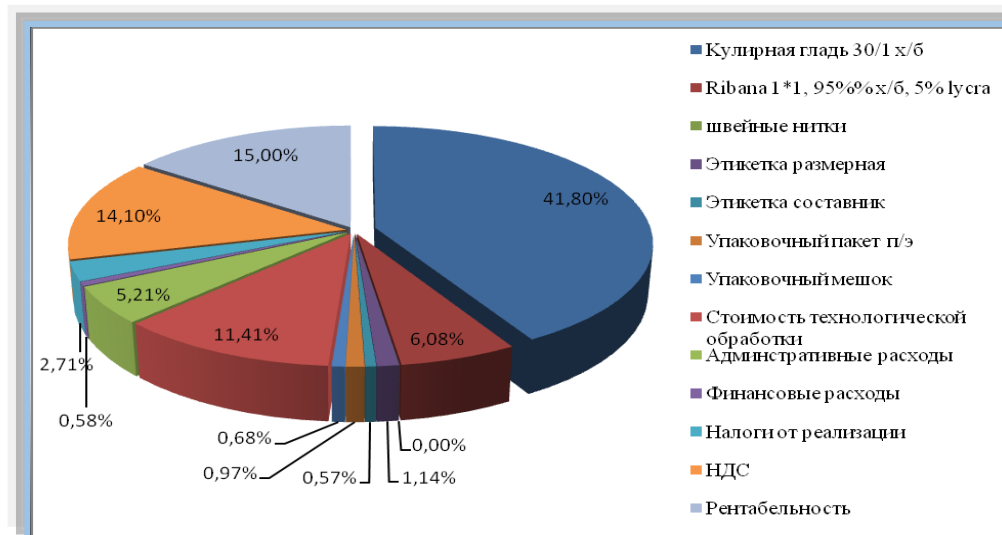
Group II consists of products of the upper assortment; blouses, shirts, cardigans, pools, dresses, sundresses, skirts, skirt-trousers. These products are distinguished by a high level of consumption of both the base material up to 54% and finishing materials up to 24%. T-shirts, sleeveless tops, tops, T-shirts make up Group III products, in which auxiliary materials

and accessories are practically not used, where the consumption of the main material reaches 89%, finishing materials - 4%, sewing threads - 7% in the total material consumption of products.

The results of the analysis of the cost ratio of the main and auxiliary materials are given on the example of individual models of each of the assortment groups of knitwear. All materials used for the manufacture of the product are divided into 4 groups:

1. Main material;
2. Applied and finishing materials;
3. Fittings.
4. Auxiliary materials and packaging.

In OOO "Art Print and Textile" an analysis of the ratio of material costs to the cost of sewing and knitwear has been carried out. It was revealed that the main share of material costs is occupied by knitted fabric. (Photo 2)



**Photo 2. Diagram of the ratio of material and labor costs in the total cost of the finished product (in %)**

The analysis showed that in the structure of the material consumption of garments and knitwear, the consumption of the main material for some types of products reaches up to 80 ÷ 90%. Therefore, when predicting the cost of a product, first of all, it is necessary to pay special attention to the characteristics of the main material from which the product will be made. With the optimal choice of the type of knitted fabric, as well as the appropriate accessories and applied materials, you can get a rational ratio of the price and quality of the product.

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