POSSIBILITIES OF THE QUALITY MANAGEMENT SYSTEM FOR CHOOSING THE OPTIMAL STRATEGY FOR THE PRODUCTION OF CHILDREN'S CLOTHING THAT IS IN DEMAND AND PREFERRED BY CONSUMERS

Abstract: in the article, the authors believe that the need to improve the quality management system at light industry enterprises is due to the following important reasons. Firstly, it is an increase in the confidence of potential consumers in the products that this company produces. Secondly, it is an opportunity to significantly strengthen its position in existing markets, as well as significantly expand its spheres of influence by entering new domestic and foreign markets. And thirdly, it is a significant increase in labor productivity of any industrial enterprise, where it is supposed to implement QMS using effective forms of management. The authors carried out an analysis of the possibility of the company's policy and goals for quality assurance within the quality management system (QMS), which will allow us to visualize the effectiveness and efficiency of the quality policy and goals developed by the authors within the QMS to ensure defect-free production with a significant reduction in the production of defective products.

Key words: quality, import substitution, demand, competitiveness, market, profit, demand, buyer, manufacturer, financial stability, sustainable TPP, attractiveness, assortment, assortment policy, demand, sales, paradigm, economic policy, economic analysis, team, success.

Language: English

Citation: Blagorodov, A. A., Prokhorov, V. T., Lopatchenko, T. P., & Volkova, G. Y. (2021). Possibilities of the quality management system for choosing the optimal strategy for the production of children's clothing that is in demand and preferred by consumers. *ISJ Theoretical & Applied Science, 12* (104), 726–762.

Soi: http://s-o-i.org/1.1/TAS-12-104-76   Doi: https://dx.doi.org/10.15863/TAS.2021.12.104.76

Scopus ASCC: 2000.
Introduction

UDC 675 .14: 317.47

Production efficiency - the ratio between the results obtained in the production of products, on the one hand, and labor costs and funds for production - on the other, is the most important quality indicator of the economy, its technical equipment and labor qualifications. Comparison of costs and benefits is used in the practice of managing firms, enterprises and other economic entities. The main indicators of production efficiency are: labor productivity; capital intensity of a unit of GDP or specific types of products; return on assets of a unit of fixed assets; material consumption per unit of GDP or specific types of products; the ratio of extensive and intensive factors in GDP growth; competitiveness of manufactured products; payback period, etc.

Product quality assurance comes with a cost. The quality of the product should guarantee the consumer satisfaction of his needs, its reliability and cost savings. These properties are formed in the course of the entire reproductive activity of the enterprise, at all its stages and in all links. Together with them, the value of the product is formed, which characterizes these properties from planning product development to its implementation and after-sales service. Reclamation is a claim made by the buyer to the seller in connection with the discrepancy between the quality or quantity of the supplied goods with the terms of the contract. Complaints can only be made on such issues that were not the subject of acceptance of the goods, made in accordance with the terms of the contract.

The policy of the enterprise should initially aim at high quality products. However, marriage, which is its opposite, can occur in any enterprise. It must be taken into account. Defects can be found in the manufacturing enterprise itself and outside of it. A defect that manifests itself in the sale or in the process of using products indicates both the poor quality of the products and the quality of the enterprise. Complaints are compared in terms of cost and quantity with the previous period. They are calculated for 100, 1000, 10000 products, depending on the volume of production. The appearance of complaints causes the manufacturer not only material, but also moral damage, affecting his reputation. The purpose of developing the STO standard is:

- reduction of marriage;
- improving the quality of product manufacturing;
- increasing the volume of sales.

The volume of sales of OJSC products manufactured by OJSC Gloria Jeans is 14 million rubles.

Losses from complaints amount to 2.4% of the sales volume. The costs for the development and implementation of the standard, according to the enterprise, amounted to 537,650 rubles. (Ztek). As a result of the implementation of the organization's standard, the quality of the products of OJSC Gloria Jeans will increase, which will reduce losses from claims and fines to 1.2%. Savings from reduced rejects Eb, rub., is determined by the following formula:

$$\mathcal{E}_b = \frac{a_1-a_2}{100} \cdot O_p,$$

where \(a_1\) and \(a_2\) are the percentage of rejects before and after the implementation of measures, \%.

$$\mathcal{E}_b = \frac{2.4-1.2}{100} \cdot 1400000 = 168000 \text{ rubles.}$$

The economic effect Eph, rubles, is calculated using the following formula:

$$\mathcal{E}_f = Eb - Ztek,$$

where Etot is the savings from the reduction of marriage, rubles; Ztek - operating costs, rubles; Eph = 168,000 - 537,650 = 369,650 rubles.

The results obtained confirm the effectiveness and expediency of the development and implementation of STO QMS XX. XXX-2016 “Measurement, analysis and improvement. General Provisions. Analysis of the reasons for the receipt of inappropriate products and defects at Gloria Jeans OJSC and the development of corrective and preventive actions.” Development and implementation of the standard STO SMK XX. XXX-2016 “Management of nonconforming products in production” made it possible to reduce the cost of products that have deviations, or unusable products, through the timely detection and correction of inconsistencies. STO determines the general procedure for the management of nonconforming products, as well as the conditions for the identification, registration.

The economic indicators from the implementation of the organization standard STO SMK XX were calculated. XXX-2016 "Management of nonconforming products in production" at JSC "Gloria Jeans", namely:

- savings from reducing rejects;
- economic effect, confirmed the effectiveness of the proposed measures within the framework of the QMS.

The general weakening of the Russian light industry as a result of the collapse of production in the early 1990s and the simultaneous growth of the market due to the massive influx of cheap imports, which still prevail at the moment, determines the urgency of the problem of forming a competitive assortment of children's clothes, which leads to the development of recommendations for the development of an optimal strategy for the release of products in demand by the population of these regions.

In light of the current foreign policy situation, caused by the influence of economic sanctions imposed by many developed countries against Russia, the issues of increasing the competitiveness of Russian products in order to provide it with reasonable...
import substitution, as well as to realize opportunities for the development of their own industries, are of particular importance. The object of this study is the processes of developing solutions that ensure the release of modern products in demand. The subject of the research is clothing for children of the preschool age group.

The aim of the research is to search for opportunities to increase the competitiveness of children's clothing produced in the regions of the Southern Federal District and the North Caucasus Federal District. To achieve this goal, the following tasks are supposed to be solved:

- studying the possibilities of filling the Russian market with children's clothing from a domestic manufacturer and comparing them with the current directions of the implementation of the Light Industry Development Strategy;
- assessment of the needs of the regional markets of the Southern Federal District and the North Caucasus Federal District in meeting the demand for Russian-made products;
- study of the features that affect the formation of the range of children's clothing and the solution of questions of demand and sale of clothing for children, as well as the requirements for children's clothing;
- development of effective recommendations for the formation of a demanded range of clothing for children, taking into account the identified features;
- development of proposals for increasing the flexibility of technological processes at enterprises.

The theoretical and practical significance of the research is determined by: segmentation of the consumer market for children's clothing in the Southern Federal District and the North Caucasus Federal District; identifying the criteria that determine the quality of children's clothing in the eyes of consumers in the regions of the Southern Federal District and the North Caucasus Federal District; determination of the characteristics of the assortment of products and parameters that determine the demand for it; a system for forming an assortment of children's clothing, which can become the basis for the assortment policy of manufacturers of children's clothing in the Southern Federal District and the North Caucasus Federal District; conditions for the development of small and medium-sized producers of children's clothing in the South.

The research was based on an integrated systematic approach to solving problems in the development of a competitive range of clothing designed for children of the preschool age group using the capabilities of modern information technologies.

In the course of the research, the method of deductive assessment of the state of the economy and the work of the light industry of the regions under consideration was used, as well as the method of questioning to take into account the opinions of consumers when predicting the assortment.

The information-theoretical basis for the research used technological, legislative and regulatory-technical documentation, theoretical and scientific-practical foundations of children's anatomy and physiology, manufacturing technology of garments and the properties of materials.

**Main part**

Geographic features of the regions of the Southern Federal District and the North Caucasus Federal District and the assessment of the size of the child population.

The Southern Federal District (SFD) is one of the eight federal districts of the Russian Federation, located in the south of its European part. The Okrug includes eight constituent entities of the Russian Federation: the Republic of Adygea, Astrakhan Region, Volgograd Region, Republic of Kalmykia, Krasnodar Territory, Republic of Crimea, Rostov Region and the federal city of Sevastopol - with a population of 16 428 458 people (11.19% of the population of the Russian Federation) and an area of 447,840 km² (2.61% of the area of the territory of the Russian Federation). Figure 1 schematically shows the location of the regions of the Southern Federal District, table 1 shows their characteristics as of 01.01.2022. In the west and north-west, the territory of the Southern Federal District borders on Ukraine, in the east - on Kazakhstan. In the south, it borders on Abkhazia and the North Caucasian Federal District, and in the north - on the Central and Volga Federal Districts. In the east, the federal district is bounded by the Caspian Sea, in the west - by the Black Sea. The climate in most of the district is temperate continental, moving south from the semi-dry Mediterranean to the humid subtropical.

More common in the Rostov region are the air masses of temperate latitudes brought by cyclones from the Atlantic Ocean and anticyclones from Siberia, however, the location of the district is close to the border of the temperate and subtropical climatic zones and contributes to the frequent penetration of tropical air masses - sea from the Mediterranean, continental from Central Asia, Iran, Arabia. Arctic air masses bring a sharp cooling in winter, frosts in late spring and early autumn, and drought and heat in summer.

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**Impact Factor:**

| Journal | Impact Factor |
|---------|---------------|
| ISRA (India) | 6.317 |
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| GIF (Australia) | 0.564 |
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| SIS (USA) | 0.912 |
| PIIHII (Russia) | 3.939 |
| ESJI (KZ) | 9.035 |
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The average annual air temperature is + 6.5 °С, varying from + 8.5 °С in the south to plus 4.5 °С in the north. The coldest month is January with an average temperature of minus 6.5 °С, and the warmest month is July with an average monthly temperature of + 23 °С. The amount of precipitation per year ranges from 600 - 700 mm in the north to 1500 - 1600 mm in the south of the Black Sea region.

The Okrug ranks third among the federal districts in terms of population, which indicates large labor reserves and a significant volume of the domestic market. The population density of the district is 36.7 people / km². The urban population predominates - 62.41%. The ethnic composition is dominated by Russians - over 83%, followed by Armenians - over 3%, then - Ukrainians - over 1.5%. Kazakhs - almost 1.5%, Kalmyks - over 1.2%, Tatars - almost 1% and about 11.8% are representatives of other nationalities. An estimate of the number of children living in the regions of the Southern Federal District is given in Table 2, for clarity, the data are supplemented with diagrams (Figures 2 and 3).
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Table 2. The number of children in the regions of the Southern Federal District (as of 01.01.2022)

| Subject of the federation     | Population | Children | Girls | Boys |
|-------------------------------|------------|----------|-------|------|
| Krasnodar region              | 5,570,945  | 1,114,189| 668,513|445,676|
| Rostov region                 | 4,231,355  | 846,271  | 507,763|338,508|
| Volgograd region              | 2,535,202  | 507,040  | 304,224|202,816|
| Republic of Crimea            | 1,912,168  | 382,434  | 229,460|152,974|
| Astrakhan region              | 1,018,866  | 203,773  | 122,264|81,509 |
| Republic of Adygea            | 453,366    | 90,673   | 54,404 |36,269 |
| Sevastopol city               | 428,753    | 85,751   | 51,451 |34,300 |
| Republic of Kalmykia          | 277,803    | 55,561   | 33,337 |22,224 |
| Southern Federal District     | 16,428,458 | 3,285,692| 1,971,415|1,314,277|

Figure 2. The ratio of the number of children by regions of the Southern Federal District

Figure 3. Accumulated percentage of the number of children by regions of the Southern Federal District
Thus, most of the children (76%) are concentrated in three regions of the Southern Federal District of eight - Krasnodar Territory, Rostov and Volgograd Regions, which also explains the largest market share for children’s clothing from these regions among the rest in the Southern Federal District.

The North Caucasian Federal District (NCFD) is located south of the Southern Federal District, includes seven Russian regions, of which six republics: Dagestan, Ingushetia, Kabardino-Balkarian, Karachay-Cherkess, Chechen, North Ossetia-Alania and one territory - Stavropol, in the territory (170 439 km², 1% of the total Russian) of which 9,775,770 people live, which is 6.66% of the population of Russia. Figure 4 schematically shows the location of the regions of the North Caucasus Federal District, table 3 shows their characteristics as of 01.01.2022.

![Figure 4. Regions forming the North Caucasus Federal District](image)

| No. | Flag | Subject of the federation | Area, km² | Population, people * | Administrative center |
|-----|------|---------------------------|-----------|----------------------|----------------------|
| 1   | 2    | The Republic of Dagestan  | 50270     | 3,041,900            | Makhachkala          |
| 2   | 3    | The Republic of Ingushetia | 3628      | 480 474              | Magas                |
| 3   | 4    | Kabardino-Balkar Republic | 12 470    | 864 454              | Nalchik              |
| 4   | 5    | Karachay-Cherkess Republic | 14277     | 466,432              | Cherkessk            |
| 5   | 6    | Republic of North Ossetia - Alania | 7987 | 703 262              | Vladikavkaz          |
| 6   | 7    | Stavropol region          | 66160     | 2 804 383            | Stavropol            |
| 7   | 8    | Chechen Republic          | 15647     | 1,414,865            | Grozny               |
|     |      | North Caucasus Federal District | 170,439 | 9,775,770            | Pyatigorsk           |

* The territory of the district has land borders with the Southern Federal District (Rostov Region, Kalmykia, Krasnodar Territory), as well as with Abkhazia, Azerbaijan, Georgia and South Ossetia, and water borders with Kazakhstan. From the east, the North Caucasus Federal District is washed by the waters of the Caspian Sea, from the south, the district is bounded by the Main Caucasian ridge. The variety of relief and the proximity of the Azov, Caspian and Black Seas form a rather favorable climate on the territory of the Okrug throughout the year. In January, the average temperature is minus 3.2 ° C, in July - plus 20.4 ° C. The amount of precipitation in the plain is 300 - 500 mm per year, in the foothills - over 600 mm.
Table 4. The number of children in the regions of the North Caucasus Federal District (as of 01.01.2022)

| Subject of the federation                  | Population | Children | Girls  | Boys  |
|--------------------------------------------|------------|----------|--------|-------|
| The Republic of Dagestan                   | 3,041,900  | 608,380  | 365,028| 243,352|
| Stavropol region                           | 2,804,383  | 560,877  | 336,526| 224,351|
| Chechen Republic                           | 1,414,865  | 282,973  | 169,784| 113,189|
| Kabardino-Balkar Republic                  | 864,454    | 172,891  | 103,735| 69,156 |
| Republic of North Ossetia - Alania         | 703,262    | 140,652  | 84,391 | 56,261 |
| The Republic of Ingushetia                 | 480,474    | 96,095   | 57,657 | 38,438 |
| Karachay-Cherkess Republic                 | 466,432    | 93,286   | 55,972 | 37,314 |
| North Caucasus Federal District            | 9,775,770  | 1,955,154| 1,173,093| 782,061|

The population density of the North Caucasus Federal District is high - the second in Russia - 57.36 people / km², the rural population predominates - 50.86%. The district is characterized by the highest population growth among the rest (+3.44% over the past five years). According to the results of the last
All-Russian population census, the ethnic composition of the district's population is quite diverse: Russians - 30.26%, Chechens - 14.17%, Avars - 9.18%, Dargins - 5.74%, Kabardins - 5.33%, Ossetians - 5.11%, Kumyks - 4.95%, Ingush - 4.44%, Lezgins - 4.2%, Karachais - 2.39%, Armenians - 2.02%, Laks - 1.77%, Azerbaijanis - 1.65%, Tabasaran - 1.36%, Balkars - 1.17% and 6.26% - representatives of other nationalities. An estimate of the number of children living in the regions of the North Caucasus Federal District is given in Table 4, the data are also supplemented with diagrams.

Juding by the data presented, most of the children (74%) are concentrated in three out of seven regions of the North Caucasus Federal District - the Republics of Dagestan and Chechen and in the Stavropol Territory.

In the context of a growing market with the dominance of imported products of stable demand for modern Russian enterprises in the South and North Caucasus Federal Districts, the problems of forming a competitive assortment of children's clothing based on marketing information and studying regional characteristics of consumer demand are urgent. The management of the competitiveness of products is associated with a frequent change in the assortment and an increase in the influence of regional socio-economic factors, its increase is possible only through the development of new models based on constantly updated marketing information and an in-depth study of the preferences of specific groups of buyers, accelerating the process of changing the assortment while maintaining or increasing efficiency production system. Manufacturers need to move away from price competition,

A competent assortment policy is needed for the production of competitive children's clothing, taking into account the factors that affect its consumer demand:
- compliance with the main fashion trends,
- take into account the economic, social and climatic characteristics of the regions of the Southern Federal District and the North Caucasus Federal District;
- the use of innovative materials;
- if possible, create a basis for a wealthy consumer to meet his demand for clothing of higher quality.

The formation of an assortment of children's clothing is a complex of issues related to specific goods, their individual series, with the determination of the relationship between the "old" and "new" goods, single and batch production, "science-intensive" and "ordinary" goods, materialized goods and production methods ... When forming the assortment, problems of prices, quality, guarantees, service arise, whether the manufacturer is going to play the role of a leader in creating fundamentally new types of products or is forced to follow other manufacturers.

The assortment is preceded by the determination of the assortment concept by the enterprise, which is a directed construction of the optimal assortment structure, product offer, while, on the one hand, the consumer requirements of certain groups (market segments) are taken as a basis, and on the other, the need to ensure the most efficient use of raw materials by the enterprise, technological, financial and other resources in order to produce products at low costs.

The assortment concept is expressed in the form of a system of indicators characterizing the possibilities of optimal development of the production assortment of a given type of goods. These indicators include: a variety of types and varieties of goods (taking into account the typology of consumers); the level and frequency of the assortment renewal; the level and ratio of prices for goods of this type, etc. The system of forming an assortment of children's clothing includes the following main points:
- determination of current and prospective needs of buyers, analysis of the specifics of purchasing behavior in the relevant market;
- assessment of existing competitors' analogues;
- a critical assessment of the products manufactured by the enterprise in the same assortment from the point of view of the consumer;
- solving issues of which products should be added to the assortment, and which ones should be excluded from it due to changes in the level of competitiveness;
- consideration of proposals for the creation of new product samples, improvement of existing ones;
- development of specifications for new or improved models in accordance with the requirements of buyers;
- exploring the possibilities of producing new or improved models, including issues of prices, costs and profitability;
- conducting tests, taking into account the possible use in order to clarify their acceptability for the main indicators;
- development of special recommendations for the production departments of the enterprise regarding quality, style, price, name, packaging, service, etc. in accordance with the results of the tests carried out, confirming the acceptability of the characteristics of the product or predetermining the need to change them;
- assessment and revision of the entire range.

Of particular importance in such a situation is the role played by certain positions in the assortment. For this, manufactured products can be classified into the following groups:
- the main group of goods (which bring the main profit and are in the stage of growth);
It is generally accepted that the customer wants a wide range of products. This widest assortment is often referred to even as a competitive advantage. But in fact, it turns out that for a manufacturer a wide assortment is hundreds of product names, and for a consumer - 7 items is already more than enough. Consequently, the consumer does not need a wide assortment at all, but the variety he needs.

An important feature that affects the formation of an assortment of children's clothing by an enterprise is market segmentation, that is, activities to identify potential consumer groups of specific types of goods. Segmentation focuses on differences in the behavior of different types of buyers in their respective markets. At the same time, the target segment is understood as a homogeneous typical group of buyers with similar needs and habits in relation to certain types of goods. The result of segmentation is the specification of the types of consumers in a given market. For businesses, customer segmentation is the basis for adjusting the existing assortment structure or for developing new models. Besides,

The choice of the optimal assortment of clothes for children, the most demanded by the population, meeting the current fashion and quality requirements adopted in the international market, is a prerequisite for the effective operation of the enterprise. The formation of an assortment of children's clothing, taking into account its competitiveness, is a process carried out taking into account the analysis of the existing market, as well as taking into account the forecasting of trends in the social, economic and industrial areas.

The formation of the assortment is preceded by the development of the assortment concept by the enterprise, i.e., the directed construction of the optimal structure of the products produced, while the basis is, on the one hand, the need to ensure the most efficient use of raw materials, technological, financial and other resources by the enterprise in order to produce products with low costs, and on the other hand, meeting the requirements of certain groups of consumers, taking into account their characteristics and capabilities.

The assortment policy for the creation and production of competitive children's clothing, taking into account current marketing approaches, is based on a group of principles based on the understanding of the need to develop only what the consumer needs. Even when developing products that have no analogues, while having only potential demand, it is necessary to carry out a set of measures to determine the needs for it:

- release trial lots, organize meetings with private and public consumers;
- to create a variety of assortment within the framework of commodity differentiated marketing;
- before the introduction of the model into production, the market segment for which it is

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- a supporting group of products (products that stabilize sales proceeds and are at a stage of maturity);
- strategic group of goods (goods designed to ensure the future profit of the company);
- tactical group of goods (goods designed to stimulate sales of the main product group and are in the stage of growth and maturity);
- a group of products under development (products that are not present on the market, but ready to enter the market);
- goods leaving the market (which do not bring profit and must be removed from production, removed from the market).

After that, it is necessary to determine the share of each group in the total volume of products, which makes it possible to assess the existing assortment set at the enterprise and, correlating it with the profit received, to assess the correctness of the assortment planning, its balance. For a stable position of the enterprise in the assortment structure, the main and supporting groups of goods must be at least 70%. In addition, an increase in the volume of goods of groups that generate the main income will not always increase the company's profits. Here it is important to pay attention to the remainders of unsold goods (what increase it will give and the possibility of its further sale).

It is necessary to monitor that the offered range of children's clothing does not include too many product names. For the majority of Russian enterprises, the main reserve for assortment optimization still lies in a significant reduction in the assortment range. Too large assortment has a bad effect on economic indicators - there are many positions that cannot even reach the break-even level in terms of sales. As a result, the overall profitability drops dramatically. Only the exclusion of unprofitable and unprofitable items from the assortment can give production an increase in overall profitability of up to 50%. In addition, a large assortment diffuses the strength of the enterprise, makes it difficult to correctly offer goods to customers, and scatters the attention of end consumers.

Research data from psychologists indicate that the average person is capable of simultaneously perceiving no more than 5 - 7 (sometimes up to 9) meaningful constructive decisions. Thus, a person, making a choice, first chooses these same 5 - 7 options based on the same number of criteria. If the seller offers too many selection criteria, the buyer begins to feel discomfort and independently weeds out criteria that are insignificant from his point of view, which often leads to the cancellation of the purchase or to the choice of an outdated (familiar) model. From the point of view of the buyer, in order to ensure a calm choice from the perceivable options, the assortment should consist of no more than 5 - 7 groups of 5 - 7 items, i.e. from the point of view of perception, the entire assortment should ideally consist of 25 - 50 items.
intended within the framework of targeted marketing must be determined;
- it is necessary to predict the properties of the product during operation.

Thus, the choice of assortment policy is seen as part of the strategic planning process. The choice of strategy depends, first of all, on the resources of the enterprise - when developing an assortment, there is a high probability of dissipation of funds. Assortment planning and management is an integral part of marketing. Even well-thought-out sales and advertising plans will not be able to neutralize the consequences of mistakes made earlier in assortment planning. An optimal assortment structure should ensure maximum profitability, on the one hand, and sufficient stability of economic and marketing indicators (in particular, sales volume), on the other hand. The existing measures of state support are designed to ensure the financial stability of enterprises.

In market conditions of management, an effective management system requires a rational organization of marketing activities, which largely determines the level of use of production means at the enterprise, an increase in labor productivity, a decrease in production costs, an increase in profits and profitability. This is due to the fact that sales activities are not only the sale of finished products, but also the orientation of production towards satisfying the effective demand of buyers and active work in the market to maintain and form demand for the company's products, and organize effective channels for the distribution and promotion of goods.

An effective tool for maintaining high demand for the products manufactured by the company is marketing, the initial stage of which is the study of market opportunities and the assessment of financial investments. Marketing research gives a company an idea of the differences between buyers in their needs, perceptions, and preferences.

At the enterprise, the marketing department must closely monitor the dynamics of sales and profits in order to take appropriate measures in time. So, for example, with a decrease in the rate of sales, you need to think about new markets, adjusting the price of the manufactured assortment, and improving service. Each enterprise needs a policy, the basis of which should be an assessment of its real capabilities, so that any samples of children's clothing that are newly introduced to the market would serve as its position and competitive advantage. Within the framework of the product strategy, specialists determine market demands and ways to satisfy them, based on the study of consumer demand and its characteristics.

The activity of a sewing company is carried out in a constantly changing economic environment with the solution of one goal - to obtain maximum profit. In a market economy, when prices and volumes of production are dictated by the market, an enterprise always faces a choice of how much to produce at the current market price in order to get the desired profit. To properly plan a marketing strategy, you first need to analyze the current situation, understand your own resources, and then look for ways to solve the intended goals. On the one hand, this is a thorough study of the market for demand and needs, the orientation of production to these requirements, on the other, an active influence on the market, on the formation of needs and consumer preferences.

To create a competitive advantage from a marketing point of view, an enterprise must analyze the existing demands of potential customers and determine what matters most to them. This also requires the use of a set of marketing techniques: branding, participation in industry exhibitions, the use of various advertising options, assortment policy. Equally important for maintaining the sustainable development of the production of children's clothing is to determine the period of the economic life of the model and optimize the period of the product's existence through rational pricing and the correct application of marketing techniques.

In addition, in order to avoid problems with implementation, the creation of new models in the design departments of the enterprise should be carried out after a preliminary study of the real market needs for these products. Indeed, as the experience of Russian enterprises shows, the main reason for the sales crisis is the inconsistency of the range of manufactured products with the structure of consumer demand. In most cases, domestic producers tend to sell what they produce rather than produce what can be sold. This is due to the fact that for most of them the problem of sales orientation is more relevant than marketing. This situation can be explained by the following reasons:
- commodity producers are forced to concentrate their efforts on the product, and not on the needs of consumers, since they have very limited investment opportunities;
- a wide range of products is possible in the presence of flexible industries, the introduction of which is constrained by technological backwardness;
- for the production program to be determined by marketers, it is necessary not only flexible production, but also the presence of significant production reserves, including reserves of production capacities, financial resources, etc.;
- the possibility of using prices of market equilibrium and the advantage of non-price methods of competition for domestic producers are limited by the lack of professional marketers;
- the relatively narrow planning horizons for our businessmen are determined by the still continuing economic and political instability of Russian society.

This also explains the price orientation of the business to maximize current profits, to hide it for taxation, and not to obtain a long-term effect from the

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market orientation of production. The enterprise takes care of its costs, developing measures to reduce them by improving equipment and technology, introducing new types of materials into production, constantly improving the quality of manufactured products - all this requires large financial costs, but, nevertheless, contributes to an increase in competitiveness as separate types products, and the enterprise as a whole. With the transition from the seller's market to the buyer's market, the competitiveness of an enterprise increasingly depends on how perfect and viable its marketing and sales of products are.

Supply, demand and prices are elements of the market mechanism. Production, in essence, is a link between demand and supply, which acts as a result of production activities and represents a batch of children's clothing intended for sale, the price of which must be sufficient to reimburse all costs (fixed and variable) for its production, management, implementation, and provide an acceptable return on investment. Consumer demand acts as the main factor influencing the formation of the assortment, which, in turn, is aimed at maximizing and meeting the demand of the population. Demand parameters include:

- comparative competitive advantages (the product must have pronounced features or pronounced advantages in comparison with analogues existing on the market, products or services of competitors);
- social orientation (it is necessary that the product fits into the existing social conditions, so that the proposed product corresponds to the prevailing lifestyle and value system of the consumer);
- the ability to satisfy the consumer (the product must perform all functions to meet the key needs and requests of the buyer).

The nature and possibilities of mutual adjustment of supply and demand are determined by the ability of these factors of the market mechanism to influence the change in the price level of retail goods and commodity groups. The quantitative side of this relationship is expressed by the concept of price elasticity of supply and demand, which is understood as the degree of the corresponding response of supply and demand to a relative change in the level of market prices.

Increasing the competitiveness of manufactured children's clothing is possible only through the development of new models based on marketing information and in-depth study of the preferences of specific groups of buyers, accelerating the process of changing the assortment while maintaining or increasing the efficiency of the production system.

If an enterprise wants to operate successfully in the buyer's market, it must conduct business in such a way as not to depend on the sale of what it can produce, but to produce what it can sell at a profit. In these conditions, you need to manage an enterprise focusing on the market, not the product. At the center of this mindset is the customer, with their desires and expectations that must be met as fully as possible.

Today, a light industry enterprise striving not only to survive, but also to develop, requires the ability not only to competently exploit existing technologies, but first of all, to actively position itself on the market, supplying high-quality products that meet the requirements, requests and expectations of consumers in a short time, minimum price. In other words, at the present time, the one who will put on the market faster than others the products that most fully meet the requirements of consumers, while ensuring the minimum cost of its production, will “survive”. To do this, the company needs:

- to understand both current and future preferences of customers and be able to develop types of products that match these preferences;
- to ensure the adjustment of technological production processes, which guarantees their minimum cost by identifying and eliminating all types of costs that do not bring value to the product;
- to bring your products to the market before competitors.

The implementation of the listed tasks will depend on how smoothly and efficiently all departments will work at the enterprise. This can be achieved through a quality management-based approach according to the international standard ISO 9000: 2015:

- definition of a set of processes or activities that ensure the production of products with quality characteristics that meet the requirements, requests and expectations of consumers;
- establishing clear and understandable interaction between processes;
- the definition of quality objectives at the level of the enterprise and departments, providing an understanding of the results to be achieved by departments, and which ensure the achievement of the overall objectives of the enterprise;
- planning the resources needed to achieve the goals;
- determination of procedures to ensure the execution of work in the departments in the most efficient way;
- measuring the results and comparing them with the set goals;
- analyzing and deciding what needs to be improved within each division.

The implementation of these actions will make it possible to form an enterprise management system that directs it to the production of products that meet the requirements, demands and expectations of consumers in terms of their characteristics and adjusts all types of activities related to production support to an efficiency indicator, providing:

- building a system for identifying sources of costs and developing adequate measures to reduce them;
- the formation of reliable data demonstrating the effectiveness of the use of invested investments, which can help to attract new investors;
- reducing the cost of production, which makes it possible to reduce the price, expand the market and increase the volume of production;
- reduction of costs associated mainly with a reduction in the number of rejects and other types of waste, which has a positive effect on such indicators of the enterprise as the impact on the environment, the state of industrial safety; the image of a socially oriented enterprise is formed;
- a clear statement of goals and objectives for each employee, defining the result that should be obtained when performing work;
- determining the resources needed to carry out the work and providing resources;
- providing the knowledge and skills necessary to understand how the work should be done in order to ensure its maximum efficiency;
- measuring the results of work at the level of employees, departments and the organization as a whole and comparing the results with goals;
- analysis of results and adequate response to them through a system of corrective and preventive actions.

As world practice shows, the ability to implement these processes at the level of top management creates the conditions necessary for the formation of a competitive enterprise, ensuring the economic stability of enterprises.

In recent years, researchers have noted a growing tendency for consumer preferences to change towards the quality, availability and safety of products for children, and even more recently, the main reference point for most buyers was price. Thus, one can judge the growth of the consumption culture along with the growth of the population's income, which naturally leads to an increase in demand for branded products as of higher quality in the eyes of parents.

Based on this, large manufacturers of children's clothing in the Southern Federal District and the North Caucasus Federal District should start developing lines of high-quality clothing in the more expensive segment under their own brand. The demand for such products will be stable, but so far - only in regional centers and other developed cities. This will be facilitated by the growing interest and confidence of consumers in domestic products from year to year, due to their compliance with much more stringent regulatory requirements for the manufacture of children's things and, as a result, higher quality compared to many imported goods, which are often extremely harmful to the health of children and not suitable for climatic conditions. For the same reasons, many Russian manufacturers compete more and more successfully with foreign and in the middle price segment.

Another argument in favor of the development of Russian brands is the stable development of modern civilized trade formats, where, as a rule, original products of a certain price category and quality level are sold. As mentioned above, the well-being of the population is growing, its culture of consumption, which in the near future will attract consumers precisely to comfortable shops, children's centers, etc., and not to open markets, fairs, etc. At the same time, an increase in the purchasing power of the population of the regions Against the background of saturation of the markets of the largest cities, we can talk about the future development of the entire market for children's goods, mainly due to regional markets.

Online commerce is gaining more and more popularity as a powerful tool, and, most importantly, a consumer-friendly means of developing product recognition. The audience of Internet users and their confidence in this sales channel is growing, for many of them it is more convenient to buy things that do not require fitting (and it is difficult to make mistakes with children's sizes) on the Internet, which significantly saves time and money.

Many manufacturers, not wanting to depend on the conditions of retailers, go to create their own branded retail chains that increase their own profitability. At the same time, the popularity of the development of such networks in the form of a franchise is growing, which, given sufficient brand awareness, is a mutually beneficial event for both the franchisor and the franchisee. In this case, the main advantage of the development of franchised stores of goods for children is the wide distribution of the brand with a certain minimization of risks and costs of opening stores. There is a reduction in costs, pooling of profits, organization of logistics, a single circle of professionals of different levels, as well as general advertising budgets.

Thus, there is an increase in market diversification: more and more non-specialized retail chains include in their assortment groups of goods for children. The struggle for the consumer is intensifying: loyalty programs are expanding, the segmentation of the assortment matrix in favor of popular products and, in parallel, the cheaper basic assortment is more often manifested, more attention is paid to the location and format of the store, and its marketing support. When developing the assortment, interior, choosing the color and equipment for the store, the interests of both children of different age groups and their parents are taken into account, preference is given to the harmonious design and decoration of the sales area, the organization of a special play area.

Experts point to a possible increase in the child population in the coming years or a slight decrease in growth. Priority segments where high growth of domestic production is likely include: clothing for newborns, functional and bedding, hosiery, knitwear,
and school uniforms. In market conditions, the interests of the seller and the buyer are directly opposite: one is characterized by the desire to make a profit, the other is to save on direct costs, but there is always a common point of contact in their relationship, called the quality of the goods. For a conscientious seller, especially if he represents the interests of the manufacturer, the quality of the goods determines his reputation in the market, while the buyer, naturally, is inclined to maximize the utility of the purchased goods, largely due to its quality. Thus, the quality of the goods is the core of the normal interaction between the seller and the buyer, imparting a trusting nature to their relationship and, guaranteeing, the mutual benefit of these relationships.

For manufacturers, the catchphrase: “The future, in which there is nothing to do without quality, has already arrived,” - in the best way reflects the importance of timely response to changes in market conditions and adequacy in the placement of accents within quality relations. Even large investments may not save an enterprise if it cannot ensure the competitiveness of its products, which are based on quality. It is quality that consumers prefer when choosing products; it is also one of the most important factors influencing the formation of the quality expectations as a product and a service for its purchase. From this point of view, the enterprise management strategy should be built on the principle of a "follow-up system" with feedback, that is, it should provide consumers with products that meet their specific requirements for quality and related service in its marketing, while constantly monitoring the degree of such satisfaction (Figure 7).

Tracking the quality of goods and related services consists of two stages:

1) studying, through marketing, consumer expectations as a product and a service for its purchase; based on this information, functional specifications for new types of products and quality of service are determined, which will depend on the ability to define customer expectations and the ability to adapt production technologies to changing customer expectations;

2) periodic “measurement” of the mismatch between the actual and expected level of product quality and related service; in accordance with the magnitude of the mismatch, the activities of the enterprise should be aimed at developing control actions on organizational and technological units in order to reduce the discrepancy and introduce new methods for assessing quality parameters.

Quality assurance for children’s clothing involves planning and conducting a series of measures to create conditions for the release of products that meet the requirements of consumers. When implementing these activities, the following are taken into account:

- factors influencing the formation of the quality of goods (study of the market for goods, development of requirements for goods, quality of raw materials and materials, quality of construction and design, quality of manufacture, quality of labeling of goods);

- factors that preserve the quality of goods (packaging, conditions of transportation and storage, sale and consumption (operation), technical assistance in service).

The chemical composition and structure of the initial substances and materials predetermine all the basic properties of goods, divided by nature into physical, chemical, mechanical, biological. Taking this factor into account, all the others are formed: design, technology, etc.

The starting materials are simple and complex substances characterized by constant chemical

| Impact Factor | JIF | GIF (Australia) | ISRA (India) | ISI (Dubai, UAE) |
|--------------|-----|----------------|-------------|-----------------|
| SJIF (Morocco) | 7.184 | SIS (USA) | 0.912 | PII (Russia) |
| ICV (Poland) | 6.630 | PFF (India) | 1.940 | ISRA (India) |

| Feedback for correction and improvement |
|-----------------------------------------|
| Company manufacturer | Control |
| Grocery | The actual quality products and service |
| Comparison | Expectations buyers |

**Figure 7. Customer satisfaction system**
composition and certain properties. The indicators of these properties are density, temperature constants, spectral characteristics, etc., which are the basis for the identification of goods and various types of expertise.

There is a certain functional relationship between the amount of an element or chemical compound and the measured physical quantity, which is used to directly characterize the consumer value of a material or product. The content limits for these substances are specified in the relevant regulations.

An important factor is the influence of the constituent parts of the starting substances, in particular the functional groups that make up the molecules of the starting substances, namely:
- the hydroxyl group (–OH) in the composition of cellulose fibers (cotton, flax) causes a high hygroscopicity of 8 - 12%, a good ability to color, the dependence of properties on moisture;
- carboxyl group (-COOH), amino group (-NH2) in the composition of protein fibers (wool, silk, leather) provide good hygroscopicity - 11 - 16%. good coloration, low electrification, the ability to form a network structure and, as a result, provide high elasticity of fibers;
- the amide group (–NH) in the composition of polyamide fibers (nylon, enant, anide) causes low hygroscopicity - 4%, weak dependence of properties on moisture, mediocre coloration, increased electrification;
- the ester group (–COO) in the composition of polyester (lavsan) and polyacrylonitrile (nitron) fibers determines their zero hygroscopicity, poor coloring, high electrification.

Thus, knowledge of the chemical composition of the starting materials makes it possible to predict the nature of possible changes in finished products during storage and operation, as well as to identify the goods.

Design is one of the most important factors in the quality of finished products. The design is the shape, size, method of connection and interaction of parts and assemblies, the relationship between individual elements, interchangeability, multi-operation and other features of the product. The design of children's clothing should be the best way to ensure functionality, ergonomics, aesthetics, reliability and safety in the use and operation of the product.

Ergonomic properties- the ability of goods to create a feeling of convenience, comfort, the fullest satisfaction of needs in accordance with the anthropometric, physiological, psychological and physiological characteristics of the consumer. The ergonomic properties of children's clothing are subdivided into the following subgroups:
- anthropometric properties -the ability of goods during use to correspond to the greatest extent to the measurable characteristics of the child's body;
- psychological properties - the ability of goods to ensure the convenience of functioning of individual organs or parts of the human body when using them;
- hygienic properties are also associated with the influence on the living conditions of the human body and are subdivided into sorption (hygroscopicity, moisture yield), permeability properties (steam, water, dust, light, air permeability), electrification (accumulation of static electricity charges), heat-shielding properties (thermal conductivity, heat capacity);
- psychological properties - the ability of goods to provide the consumer with mental comfort during operation, to correspond to his individual perception of the goods, which is especially important for young children;
- psychological and physiological properties - the ability of goods to ensure compliance with the psychological and physiological capabilities and needs of the consumer, these properties comprehensively satisfy the psychological and physiological needs of a person, mainly characterized by organoleptic indicators.

Aesthetic properties are especially important for children's clothing. The ability of a product to express social values in perceptible form features and satisfy aesthetic needs of a person: information expressiveness, rationality of form, integrity of composition, perfection of production performance and stability of presentation. Aesthetic needs are always individual, therefore, it is rather difficult to ensure the aesthetic properties of goods and evaluate them, but at the same time they are of considerable interest, especially when making clothes for children.

Indicators of the aesthetic properties of children's clothing are: appearance, compositional integrity, design, fashion, style, information expressiveness, production excellence, etc.

Integrity of the composition reflects the rational relationship of external signs with the internal structure and presupposes subordination to the main elements of secondary ones, the unity of the stylistic solution of all parts of the products.

Design is the ability of products to comprehensively satisfy aesthetic, ergonomic, social and other needs through their artistic design. The satisfaction of diverse needs and, first of all, aesthetic needs is achieved through a rational combination of indicators of appearance (shape, color, surface condition, etc.) with dimensions and indicators of functional and ergonomic properties. So, the beautiful shape of the products should be combined with ease
of use. The dimensions of the products as a whole or of their individual parts should ensure the harmony of form and functionality.

Compliance with a certain style allows you to meet social and aesthetic needs using a set of indicators of appearance, design features and details, which are determined by the general perception of the world for a particular segment of consumers. The style of goods, together with fashion, is an important means of creating the image of consumers and satisfying prestigious needs as a kind of social need.

Following fashion allows you to satisfy aesthetic needs, formed or developed in a certain socio-cultural environment for a certain, limited period.

The fundamental features characterizing these properties are single indicators of appearance:

- the shape of the product as a whole and / or its individual parts;
- color and / or color scheme (this is especially typical for clothes, shoes - the fashionable color of the season);
- the condition of the surface, including design details (for example, the presence of ruffles on dresses, blouses, accessories on shoes, etc.);
- the presence or absence of individual functional parts (for example, a heel on shoes, sleeves, belts on clothes).

The named indicators of fashion are ensured by selecting the most suitable types of raw materials and materials and developing a specific design.

Fashion is one of the important engines of scientific and technological progress, prompting fashion designers to create not only fashionable goods, but also to order the development of new materials and technologies.

The most important indicator of the quality of children's clothing is the safety of goods. Currently, in legislative acts, safety requirements are singled out in a special group as mandatory.

According to the Federal Law "On Technical Regulation", "the safety of products and related processes of production, operation, storage, transportation, sale and disposal is a condition in which there is no unacceptable risk associated with causing harm to the life or health of citizens, property of individuals or legal entities, persons, state or municipal property, environment, life or health of animals and plants .”

With regard to the quality of consumer goods, safety can be defined as the absence of an unacceptable risk to the life, health and property of consumers during the operation or consumption of goods. Unlike other consumer properties, the deterioration or loss of which leads to losses of functional or social purpose, non-compliance with the permissible level of safety indicators translates products into the category of hazardous, subject only to destruction - on the contrary, products that have lost other consumer properties are conditionally suitable and can be redesigned. In addition, the lost properties of products can be restored after appropriate elimination of defects, so that it can be used for its intended purpose.

On the territory of the Russian Federation, which is part of the Eurasian Economic Union, with regard to safety requirements for clothes for children, the technical regulations of the Customs Union TR CU 007/2011 "On the safety of products intended for children and adolescents" are in force in order to protect the life and health of children and adolescents, as well as warning of actions that mislead users of the products. Table 5 shows the biological and chemical safety requirements established in it for clothing made of textile materials for children over 1 year old.

| Table 5. Safety requirements for clothing made of textile materials of the 1st and 2nd layers for children over 1 year old |
|---|---|---|---|
| Age group, user age | Hygroscopicity (percent, not less) | Air permeability (dm3 / m2s, not less) | Mass fraction of free formaldehyde (μg / g, no more) |
| 1 | 2 | 3 | 4 |
| 1. Clothes of the 1st layer, bedding, shawls, hats (summer), swimwear and hosiery * | | | |
| Nursery group, from 1 to 3 years | 9 (at least 7 is allowed for hosiery of occasional use) | 150 (no less than 70 is allowed for products made of flannel, paper, lined (brushed) knitted fabrics) | twenty |

Impact Factor:

| ISRA (India) | SIS (USA) | ICV (Poland) |
|-------------|-----------|--------------|
| 6.317       | 0.912     | 6.630        |
| ISI (Dubai, UAE) | PIIHII (Russia) | PIF (India) |
| 1.582       | 3.939     | 1.940        |
| GIF (Australia) | ESJI (KZ)  | IBI (India)  |
| 0.564       | 9.035     | 4.260        |
| JIF         | SJIF (Morocco) | OAJI (USA) |
| 1.500       | 7.184     | 0.350        |
Impact Factor:

| Journal      | Impact Factor |
|--------------|---------------|
| ISRA (India) | 6.317         |
| ISI (Dubai, UAE) | 1.582  |
| GIF (Australia) | 0.564  |
| JIF (USA)    | 1.500         |
| ISIR (Dubai, UAE) | 1.582  |
| ESJ (KZ)     | 9.035         |
| SIS (USA)    | 0.912         |
| GIF (Australia) | 0.564  |
| SJIF (Morocco) | 7.184  |
| ICV (Poland) | 6.630         |
| SIS (USA)    | 0.912         |
| PIHR (Russia) | 3.939  |
| PIF (India)  | 1.940         |
| ИРИНЦ (Russia) | 3.939  |
| ESJ (KZ)     | 9.035         |
| SJIF (Morocco) | 7.184  |
| ICV (Poland) | 6.630         |

| Group          | Note | 2nd layer, gloves, mittens and hats, hosiery of the autumn-winter assortment * |
|----------------|------|--------------------------------------------------------------------------------|
| Preschool group, from 3 to 7 years old | 9 (at least 7 is allowed for hosiery)                                                                      | 100 (at least 70 is allowed for products made of flannel, paper, lined (brushed) knitted fabrics) 75 |
| School group, from 7 to 14 years old | 9 (at least 7 is allowed for hosiery)                                                                      | 100 (at least 70 is allowed for products made of flannel, paper, lined (brushed) knitted fabrics) 75 |
| Teenage group, from 14 to 18 years old | 6 (at least 2 is allowed - for hosiery)                                                                      | 100 (at least 70 is allowed for products made of flannel, paper, lined (brushed) knitted fabrics, bed linen) 75 |

2. Clothes of the 2nd layer, gloves, mittens and hats, hosiery of the autumn-winter assortment *

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| Nursery group, from 1 to 3 years old | 8 (at least 6 is allowed for jerseys) | 100 (at least 70 is allowed for products made of flannel, bumazey, lined (brushed) knitted fabrics, denim and corduroy fabrics and materials with polyurethane threads) | 75 |
| Preschool group, from 3 to 7 years old | 8 (allowed: at least 6 for knitwear; at least 4 - for items of occasional use) | 100 (at least 70 is allowed for products made of flannel, bumazey, lined (brushed) knitted fabrics, denim and corduroy fabrics and materials with polyurethane threads) | 75 |
| School group, from 7 to 14 years old | 7 (at least 4 is allowed for jerseys and products of occasional use) | 100 (at least 70 is allowed for products made of flannel, bumazey, lined (brushed) knitted fabrics and materials with polyurethane threads; at least 50 - for denim and corduroy fabrics) | 75 |
| Teenage group, from 14 to 18 years old | 4 (at least 2 is allowed - for jerseys and products of occasional use) | 100 (at least 70 is allowed for products made of flannel, bumazey, lined (brushed) knitted fabrics and materials with polyurethane threads; at least 50 - for denim and corduroy fabrics) | 75 |

* Note - In swimwear, hygroscopicity is not determined, in hosiery - air permeability.  
** Note - In mittens, gloves and headdresses, hygroscopicity and air permeability are not determined.  
*** Note - Tests are not carried out for the indicator of air permeability in products that, by design (sundresses, skirts, vests) or by the structure of the material (with loose weaving, openwork), imply high air permeability, as well as in products that have structural elements that ensure air exchange ...

According to TR CU 007/2011, biological safety is a state of a product in which there is no unacceptable risk associated with harm to health or a threat to the user's life due to the inconsistency of microbiological, toxicological, physical and physicochemical properties with the established requirements; chemical safety - a condition of a product in which there is no unacceptable risk associated with harm to health or a threat to the user's life due to an excess of the concentration level of chemicals harmful to the user's health.

Compliance with chemical safety is especially important for clothing of the 1st layer, which is in direct contact with the skin, since hazardous substances entering the child's fragile body can cause serious harm to health: cause allergies, metabolic disorders, sleep, the appearance of disorders of the nervous and cardiovascular systems, pain and other
Impact Factor:

| Source        | Impact Factor |
|---------------|---------------|
| ISRA (India)  | 6.317         |
| ISI (Dubai, UAE) | 1.582        |
| GIF (Australia)  | 0.564         |
| JIF           | 1.500         |
| SIS (USA)     | 0.912         |
| ICU (Poland)  | 6.630         |
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| SJIF (Morocco)| 7.184         |
| OAJI (USA)    | 0.350         |

Symptoms. Exceeding the MPC of toxic elements can cause poisoning of varying severity, sometimes even fatal.

Compliance of products for children and adolescents with TR CU 007/2011 is ensured by the fulfillment of its safety requirements directly or by the fulfillment of the requirements of documents in the field of standardization included in the List of documents in the field of standardization, as a result of which, on a voluntary basis, compliance with the requirements of this technical regulation is ensured.

Ensuring the competitiveness of children's clothing in the domestic market and its promotion in the foreign market is impossible without the production of high-quality products that meet safety requirements. Considering this, enterprises need to implement a quality management system (QMS), which should be systematically developed and supplemented over time. According to the concept of the ISO 9000: 2015 standard, the combination of its various elements contributes to the effective management of production and the release of quality products with minimal costs. This, in particular, is the philosophy of the TQM concept (Total Quality Management) and, as a consequence, the high efficiency of the quality system at the enterprise. In these conditions, the advantage will be given to the company that can offer consumers the best quality at a lower price.

The QMS should ensure both the conformity of the product to the requirements of the consumer, and the guaranteed identification and elimination of deficiencies in production processes that affect the quality, i.e. ensure the greatest likelihood of the absence of defects. The structure of the assortment of children's clothing is characterized by a significant variety in purpose, materials used, manufacturing technology, types, shape, cut, colors, finishes, etc., which is due to the peculiarities of the physical, psychological and physiological development of children in different age.

Children's clothing is classified according to various criteria. Classification according to the following age groups is common:
1) clothes for children of the infant group - from birth to 1 year;
2) nursery group - 1 - 3 years;
3) preschool group - 3 - 6 years old;
4) junior school group - 7 - 11 years old;
5) senior school group (teenagers) - 12 - 15 years old;
6) youth group - 16 - 17 years old. Other signs of the classification of children's clothing are shown in Figure 2.

Based on the results of the analysis of the previously listed features of the formation of an assortment of children's clothing for consumers in the regions of the Southern Federal District and the North Caucasus Federal District, we have prepared some recommendations for developing an optimal strategy for the release of a demanded and competitive assortment to revive the demand for the products of existing small or medium-sized enterprises, the number of which prevails in these regions, which cannot be said about the volume of their products in comparison with small-scale large-scale industries, with which they are not able to compete at the moment.
The climatic features of the two neighboring federal districts, the South and North Caucasus, are practically identical: for most of the year, these regions experience positive air temperatures with an average annual temperature of +6.5 °C. The mild climate determines the predominance of demand for the spring-autumn and summer assortment of clothing, which allows developing enterprises to orient themselves, first of all, to the production of lightweight clothing. Therefore, taking into account...
the seasonality factor, as an example of an assortment in demand in this market, we will form an assortment of summer, light, everyday clothing for children of the preschool age group (as one of the most numerous groups, since there is an increase in the birth rate, and children grow up quickly), which is easy can be scaled and modified.

The task of studying the characteristics of consumer demand for children's clothing is the main one for improving the quality and competitiveness of products. First of all, it is necessary to establish by what criteria the buyer evaluates the quality, since he will try to purchase clothes with the most desirable set of properties for him.

To study the requirements for the quality of children's clothing, and the criteria that determine in the eyes of consumers the competitive position of children's clothing and its choice when purchasing, we conducted a survey of buyers living in the cities of the Rostov region. More than a hundred respondents (women aged 20 to 45) took part in the survey, the results of which are shown in Figure 3.

The most important criteria for the respondents when buying children's clothing are: convenience (23%), high quality (18.8%) and reasonable price (15.38%), followed by: appearance (11.96%), low price (9.4%), hygienic properties (6.84%), compliance with fashion trends (5.98%), firm prestige (3.52%), advertising (2.56%) and warranty period (2.56%).

![Figure 9. Criteria for the purchase of children's clothing](image)

When developing or updating the assortment, enterprises should take into account not only their capabilities, but also the presence of similar competitors' products on the market, as well as the preferences and capabilities of buyers in certain market segments. Table 6 provides information on the number of registered manufacturers of clothing for adults and clothing for children in the regions of the Southern Federal District and the North Caucasus Federal District.

**Table 6. Number of manufacturers of clothing for adults and children**

| Manufacturers                                      | Clothing for adults | Clothes for kids |
|----------------------------------------------------|---------------------|------------------|
| In the regions of the Southern Federal District:    | 50                  | 29               |
| Krasnodar region                                   | 17                  | 12               |
| Rostov region                                      | 22                  | 11               |
| Volgograd region                                   | 6                   | 4                |
| Republic of Crimea and the city of Sevastopol      | 4                   | 2                |
| Astrakhan region                                   | -                   | -                |
| Republic of Adygea                                 | 1                   | -                |
| Republic of Kalmykia                               | -                   | -                |

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After all, the South and North Caucasian Federal Districts are of the greatest interest for segmenting the market due to the homogeneity of the aggregate consumer who responds in the same way to the product and the methods of evaluating it for purchase. It is also necessary to take into account the factor of purchasing power, on the basis of which one can focus on the ratio of consumer segments of a given market. Table 7 shows information on the average income per capita in the regions of the Southern Federal District and the North Caucasus Federal District in 2018 - 2020.

The data on incomes, presented in Table 7, make it possible to judge about their relatively low level relative to the all-Russian level for most regions of the Southern and North Caucasian Federal Districts. As a result of segmentation, it was also determined that the population of the two districts is unevenly distributed over the territory. When forming the assortment, one should pay attention to the high percentage of rural residents in the structure of the population - in aggregate in the Southern Federal District and the North Caucasus Federal District, it is equal to 42.5%. Taking into account the above survey results, one can judge the advisability of bringing products of the middle and medium-low price segment to these markets - especially for small and medium-sized businesses. However, in order to create demanded products, enterprises need not only expanding and updating the range.

| Territory                     | year 2013 | 2018 year | 2019 year | 2020 year |
|-------------------------------|-----------|-----------|-----------|-----------|
| Russian Federation            | 25928     | 27767     | 30 467    | 30738     |
| Southern Federal District:    | 21842     | 24 328    | 25459     | 26519     |
| Republic of Adygea            | 18512     | 22 054    | 22646     | 23627     |
| Republic of Kalmykia          | 11 311    | 12 398    | 14230     | 14758     |
| Republic of Crimea            | -         | -         | 15,658    | 19,059    |
| Krasnodar region              | 25777     | 28 788    | 31375     | 32672     |
| Astrakhan region              | 19778     | 22 169    | 24,057    | 22676     |
| Volgograd region              | 17590     | 19,056    | 21719     | 21465     |
| Rostov region                 | 20995     | 23355     | 26558     | 27,228    |
| Sevastopol                    | -         | -         | 17882     | 22916     |
| North Caucasian Federal District: | 18,900    | 20693     | 23,024    | 23 399    |
| The Republic of Dagestan      | 21717     | 23 423    | 26738     | 28348     |
| The Republic of Ingushetia    | 13 821    | 14346     | 14,713    | 15 106    |
| Kabardino-Balkar Republic     | 15297     | 16619     | 19 102    | 20487     |

As can be seen from Table 6, there are significantly fewer manufacturers of children's clothing than adults in both districts, and their overall representation in this market, like the entire light industry, is not able to cover the growing demand for legal Russian products, which in the Southern Federal District is satisfied only by 18.5%., and in the North Caucasus Federal District - only 10.1%. One of the serious problems of the industry, hindering its development, is the high number of unregistered "underground" workshops producing counterfeit products. Therefore, due to the strongly pronounced unfair competition, as well as the total predominance of imports for operating small and medium-sized enterprises in both districts, the main problem is the impossibility of producing competitive products that meet the needs of various social strata. After all, buyers differ from each other by a variety of parameters: according to their needs, financial and other capabilities, location, buying views and buying habits. In this sense, the South and North Caucasian Federal Districts are of the greatest interest for segmenting the market due to the homogeneity of the aggregate consumer who responds in the same way to the product and the methods of evaluating it for purchase.

### Table 6

| Impact Factor: | ISRA (India) = 6.317 | SIS (USA) = 0.912 | ICV (Poland) = 6.630 |
|----------------|----------------------|-------------------|----------------------|
| ISI (Dubai, UAE) = 1.582 | PIIHII (Russia) = 3.939 | PIF (India) = 1.940 |
| GIF (Australia) = 0.564 | ESJI (KZ) = 9.035 | IBI (India) = 4.260 |
| JIF = 1.500 | SJIIJF (Morocco) = 7.184 | OAJI (USA) = 0.350 |

### Table 7

| Territory                                   | year 2013 | 2018 year | 2019 year | 2020 year |
|---------------------------------------------|-----------|-----------|-----------|-----------|
| Russian Federation                          | 25928     | 27767     | 30 467    | 30738     |
| Southern Federal District:                  | 21842     | 24 328    | 25459     | 26519     |
| Republic of Adygea                          | 18512     | 22 054    | 22646     | 23627     |
| Republic of Kalmykia                        | 11 311    | 12 398    | 14230     | 14758     |
| Republic of Crimea                          | -         | -         | 15,658    | 19,059    |
| Krasnodar region                            | 25777     | 28 788    | 31375     | 32672     |
| Astrakhan region                            | 19778     | 22 169    | 24,057    | 22676     |
| Volgograd region                            | 17590     | 19,056    | 21719     | 21465     |
| Rostov region                               | 20995     | 23355     | 26558     | 27,228    |
| Sevastopol                                  | -         | -         | 17882     | 22916     |
| North Caucasian Federal District:           | 18,900    | 20693     | 23,024    | 23 399    |
| The Republic of Dagestan                    | 21717     | 23 423    | 26738     | 28348     |
| The Republic of Ingushetia                  | 13 821    | 14346     | 14,713    | 15 106    |
| Kabardino-Balkar Republic                   | 15297     | 16619     | 19 102    | 20487     |
It is important to form an assortment policy for the manufacture of such an assortment of children's clothing in order to guarantee its demand and demand not only due to the pricing policy, but also to provide consumers with comfort and prevent the occurrence of diseases and other ailments associated with design flaws, improper selection of materials and components. Unfortunately, today filling the market with imported products does not ensure the elimination of these problems, which is one of the reasons for the need for an import substitution policy in order to meet the demand of consumers of these entities, namely, in such clothes that would satisfy them in all aspects, and allow manufacturing enterprises to receive stable technical and economic indicators with a guarantee of social protection of the population of these regions.

In summer in the Southern Federal District and the North Caucasus Federal District, rather hot, predominantly dry weather sets in. Although the average monthly air temperature of the warmest month in the year of July is + 23 °C, often on many days in some places the temperature is set above 35 °C and even above 40 °C. Often, this weather is already established in May, it can last all September. Considering this, when developing an assortment, it is worth giving preference to open, light, loose, "breathable" clothes - this should be facilitated by the use of modern high-quality materials in its manufacture, the basis of which should be natural fibers (cotton, linen, nettle, hemp, etc.) with by adding the permitted proportion of artificial fibers, as it decreases, the cost of the product will increase, while satisfying the needs of different social groups. Figure 10 shows an assortment of clothing for children that meets the specified requirements: T-shirts for boys and girls, T-shirts for boys and sundresses for girls, shorts for boys and summer semi-overalls for girls. Saturation, brightness, multicolor emphasize traditions, taste, mood among consumers.

And the use of patchwork in the production of children's clothing, due to the use of waste materials, significantly reduces the cost of its production and expands the color gamut, which provides not only demand, but also a flexible price niche that guarantees its implementation to consumers with different social status. Patchwork clothes look beautiful, original and individual.

The body shape of boys and girls in infants and children of primary preschool age does not differ, therefore, for the development of small production, it is advisable to produce clothes of a universal style (unisex) for this category of children, or to vary colors and patterns for each model for girls and for boys, which will not require large labor costs. The silhouette can be free, wide, shapeless, and the shape can be rectangular, square or oval; set-in sleeves, raglan, cuffs are fastened with buttons, Velcro, zippers. Distinctive features indicating the gender of their owner may be completely absent.

Vests and trousers (skirts) for preschoolers are among the most promising types of children's clothing for production and sale on the territory of the Southern Federal District.
Federal District and the North Caucasus Federal District.

In this type of clothing, you can best express a bright southern flavor, highlight little fashionistas against the background of their peers, gradually instilling good taste in clothes, the ability to look after their appearance, since very soon they will have to go to first grade, where they will have to spend many hours in school a form requiring some care in handling. After the resumption of the institute of school uniforms in Russia, it became clear that schools would become one of the largest customers of sewing enterprises, and while there are not very many of them in the Southern Federal District and especially in the North Caucasus Federal District, it is worth taking a moment to develop your small production, starting with sewing clothes for preschoolers, and after successful consolidation in the market and the gradual accumulation of competencies with the simultaneous development of production - to switch to the production of school uniforms, after all, parents will probably give preference in her choice to an already well-known company, from which, perhaps, they once purchased a suit for their child. Light industry is one of the industries for which the problem of adaptation in the face of fierce competition is especially urgent. The main direction of increasing the investment attractiveness of enterprises is their innovative development. The growth of investments in innovative development will allow introducing new progressive technologies into production, updating the manufactured products, mastering new sales markets and ensuring a constant increase in the profitability and market value of the enterprise. But at the same time, there should be opportunities for implementation. The intensification of investment activity, in turn, contributes to the growth of the economy, with the help of investments, new enterprises are created and, accordingly.

Improving the efficiency of innovation is the basis for building a competitive strategy for the development of light industry in Russia, ensuring the effective correspondence of production volumes, quality and range of products to the aggregate demand of consumers, increasing the national importance and image of the industry. This requires continuous scientific and technical development aimed at improving the processing technology of materials and semi-finished products to standardize the properties and reduce the resource intensity of light industry products, develop innovative systems for the design and design of light industry products, create innovative structures with improved consumer and economic properties, and optimize technological processes, due to the automation of production.

The innovative approach of enterprises is based primarily on internal resources, but for effective and long-term development it requires integration with financial, economic, research Russian and international structures. Possibilities of using innovative equipment for the production of popular and competitive clothing for children

In modern conditions of tough competition between domestic and foreign brands with a predominance of the latter, a wide spread of various forms of unfair competition against the background of the growing lag of technologies used in most Russian industries from the most advanced, progressive and successful production can be considered only such production that actively and dynamically responds to emerging tasks. ... The principle “to produce only what is needed, when needed, and as much as needed” requires the adaptation of enterprises to the conditions of production in small batches with frequent changes in the assortment, that is, to the conditions of many assortment small-scale production. The efficiency of the enterprise, and in many respects the ability to survive in the competition, depend on the ability in a short time and with minimal costs to reorganize to produce products in accordance with fluctuations in demand. The development and implementation of flexible production systems opens up great opportunities for this.

The technological and organizational flexibility of production systems determines the variable potential of enterprises, their ability to quickly and adequately respond to changes in market conditions and acts as a mechanism for optimizing the structure of the technological system in order to reduce the cost. Thus, the development of flexible technological processes for the production of children's clothing will ensure high efficiency with its many assortment production, which will entail a sharp increase in demand for these products by enterprises of the Southern Federal District and the North Caucasus Federal District.

The organization of a wide assortment production will make it possible to turn some subsidized regions of the Southern Federal District and the North Caucasus Federal District into self-sustaining ones, increasing the level of income of the population, will become a prerequisite for the creation of new jobs, will ensure the development of small business and support legal private entrepreneurship, and will also create the basis for getting out of the shadow of a significant part of the turnover of the real sector economy in order to form the regional budget, thus, the implementation of a set of measures to modernize Russian enterprises carries both economic and political and social effects.

The main stage in the development of small and medium-sized enterprises should be raising their technical level of production, ensuring the introduction of competitive innovative products, high technologies, replacing certain types of imported products with domestic ones, and subsequently entering the Russian and world markets. This requires measures for the modernization and reconstruction of

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living production facilities and the creation of new ones, strengthening of internal control and the introduction of modern quality management systems, in the long term - certification of products and the production facilities themselves, the development of a dealer and distribution network, an active marketing policy, expansion of the practice of innovative leasing schemes. 

The effectiveness of the use of flexible technological processes for the production of a frequently changing assortment of products in small volumes (including single items) is possible if universal multifunctional equipment and a higher level of qualification of workers are used.

Next, we will consider modern effective innovative means to ensure high-performance production of competitive clothing for children.

At the stage of product design and production preparation, an important role is played by the use of a computer-aided design (CAD) system, which significantly speeds up the process of creating fashionable and convenient clothing models and calculating production technological parameters based on the automation of complex technical and routine processes. Figure 11 shows an example of working in the CAD Gemini Pattern Editor.

CAD, as a rule, includes several modules: technical drawing, design, pattern gradation, pattern layout, automatic cutting. This system allows you to create, develop and implement new product models in a short time, increase labor productivity, and provide more precise control at all stages of production.

Together with CAD, automated spreading and cutting complexes are used.

The automated spreader GERBER Synchron 51, shown in Figure 12, is designed for high-speed, non-tensioning fabric spreading with simultaneous edge leveling.

Model characteristics:
- lullaby feeding system;
- computer control;
- touch control device.
The automated cutting complex GERBER GTxL, shown in Figure 13, is designed for high-speed precision cutting. Model characteristics:
- integrated vacuum system;
- the presence of a monitor displaying the layout during cutting, as well as the cutting sequence;
- displaying the parameters of the cutting system and control over them;
- conveyor cutting surface.

For small businesses, a more profitable solution may be the use of combined cutting and spreading systems, such as the inexpensive semi-automatic equipment Rexel UL-3 (Figure 14).
Impact Factor:

| Impact Factor       | ISRA (India) | ISI (Dubai, UAE) | GIF (Australia) | JIF | SIS (USA) | ICV (Poland) | PIF (India) | RIHNC (Russia) | ESJI (KZ) | IBI (India) | OAJI (USA) |
|---------------------|--------------|-------------------|-----------------|-----|-----------|--------------|-------------|-----------------|-----------|-------------|------------|
|                     | 6.317        | 1.582             | 0.564           | 1.500 | 0.912     | 6.630        | 1.940       | 3.939           | 9.035     | 4.260       | 0.350      |

Cutting and spreading complexes are automatic and semi-automatic complexes of a new generation that facilitate and simplify the cutting process. Their use in sewing production leads to an increase in productivity due to a decrease in the time lost for aligning patterns when sewing, and they can be serviced by one operator who sets the indicated parameters and loads a roll of fabric, monitors the state of the process.

Table 8 shows the characteristics of the latest equipment, the use of which for sewing and wet-heat treatment of vests for girls of preschool age will allow, in the shortest possible time, to create high-quality unique products that are in demand on the markets of the Southern Federal District and the North Caucasus Federal District. Particular attention is paid to wet heat treatment, as one of the determining factors in giving the products anatomically correct shape during manufacturing.

| equipment identification                                                                 | Characteristic                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Back-up press Kannegiesser                                                            | - the presence of a control panel with a device for self-diagnosis of duplication parameters and immediate reporting of deviations in the machine;                                                                                                                                                                                                 |
|                                                                                       | - transporting system with a special anti-adhesive conveyor belt                                                                                                                                                                                                                                                                                     |
| Semi-automatic machine for stitching darts on the chest                                | - allows you to perform a high-quality seam of stitching a dart due to the compaction of the stitches at the end of the seam;                                                                                                                                                                                                                         |
| PFAFF 3519-3-12                                                                       | - the length and width of the dart, depending on the height and size, can be easily programmed;                                                                                                                                                                                                                                                                                                              |
|                                                                                       | - due to the fact that a part of the front is positioned face up, when sewing a dart on striped and checkered fabrics, accurate alignment of the fabric pattern is ensured                                                                                                                                                                                                                   |
| DÜRKOPP 739-23-1 semiautomatic valve turning machine                                    | - allows you to create valve parts of various shapes, to keep up with fashion changes;                                                                                                                                                                                                                                                                                                                         |
|                                                                                       | - easily programmed using a personal computer;                                                                                                                                                                                                                                                                                                      |
|                                                                                       | - the program is written to the TAGLOG chip and placed in the template; the machine reads information and does the job automatically;                                                                                                                                                                                                              |
|                                                                                       | - high quality is created due to precise edge trimming and perfect fit                                                                                                                                                                                                                                                                             |
| Semi-automatic side pocket making machine DÜRKOPP 745-34                               | - a double light element, which this machine is equipped with, recognizes the shape of the valve, the displacement of the seam, the position of the corner knives;                                                                                                                                                                                      |
| Universal stitching machine for basic seams | Press for ironing Macpi leaves |
|-------------------------------------------|------------------------------|
| **DÜRKOPP 275-140342**                    | **Carousel press for molding parts of the front Macpi** |

- allows you to handle various types of pockets: in a frame with a valve, in a frame without a valve;
- the machine ergonomically adjusts to the worker, leaving the working area free for viewing, thereby increasing quality and productivity

- the ironing press is equipped with leaf templates of different sizes;
- the sides of the leaf are ironed, the line is squeezed out along which the part of the leaf is adjusted to a part of the front;
- high productivity and accuracy of shape retention are the main advantages;
- easily adjustable depending on the type of fabric being processed by changing the pressure and amount of steam, pressing time

- allows you to easily create a given design form;
- equipped with a computer, which allows you to change the pressing parameters depending on the composition and type of fabric

- eliminates a number of manual manipulations: drawing a chalk line at the bottom, sweeping out the hem of the bottom, etc.;
- high performance;
- equipped with a computer that allows you to perform a high-quality technological operation in products from fabrics of different composition

1

Armhole Lining Sewing Machine
*DUHKOPP 697-15155*

- the column structure provides the convenience of working on it;
- equipped with a thread trimming and stitch relaxation device, which is activated when sewing through the shoulder pad;
- it is possible to adjust the fit of both the upper and lower layers of fabric

Finishing Stitch Making Machine
*AMF REECE 59/83*

- high-quality finishing stitching, imitating decorative hand stitch, relevant in modern fashion;
- easy adjustment of the stitch length;
- various types of stitches: point, uniform, long / short

Equipped workstation for sewing on buttons
*PFAFF 3307-3 / 01B*
*PFAFF 3307-9 / 01C*

- machines with electronic control for sewing on buttons with an offset top and a deviating needle bar;
- simple programming of the seam on the control panel in Teach-in mode;
- sewing on buttons on a leg, without a leg and a blind stitch with a tack on the hem;
- free choice of leg wrapping operation

Macpi Wet Finishing Press

- simultaneous pressing of the right and left shelves;
- equipped with a video computer;
Table 9 shows the characteristics of high-tech equipment for the production of trousers for preschool boys.

**Table 9. Equipment for sewing trousers for boys**

| Equipment identification | Characteristic |
|---------------------------|----------------|
| Automatic sewing machine for sewing darts and folds on the belt **DURKOPP 743-221** | - stitching darts on the back of the trousers; - stitching of darts-folds on the front parts of the halves of the trousers; - precise, quick adjustment of various depths of darts and folds; - allows you to easily adapt the installation to different requirements |
| Semiautomatic machine for turning the toe of a belt of trousers **DURKOPP 739-23-1** | - allows you to create details of the toe of a belt of various shapes, is easily programmed using a personal computer, the program is written on the TAGLOG chip and placed in the template, the machine reads the information and performs the work automatically; - high performance, high quality is created due to precision edge trimming and perfect fit |
| DURKOPP 1265-5 semiautomatic overcasting machine | - semiautomatic device for wrapping back and front parts of trousers: - allows you to make a partial fit on the lining; - programming for overcasting complex fabrics |
### Impact Factor:

| Journal   | Impact Factor |
|-----------|---------------|
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| PHHII (Russia) | 3.939       |
| ESJI (KZ)  | 9.035         |
| ICV (Poland) | 6.630        |
| PIF (India) | 1.940         |
| RJN (Russia) | 3.939        |
| ESJI (KZ)  | 9.035         |
| SJIF (Morocco) | 7.184     |
| OAJI (USA) | 0.350         |

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**Special machine for finishing stitching along the waist of trousers**

*DURKOPP 550-5-5-2*

- specially for the operation of laying the finishing line on the waist of the trousers;
- accurately and evenly processes the belt;
- a large passage under the sewing foot;
- an ergonomic tabletop provides free movement of hands when moving the workpiece.

---

**Special machine for grinding side and crotch seams**

*DURKOPP 550-8-2/0*

- the upper and lower conveyors work absolutely synchronously, even at high speeds;
- always smooth seams, edge fence facilitates positioning and advancement of the part, ensures first-class quality.

---

**Codpiece and Trouser Cutting Machine**

*DURKOPP 550-2-1*

- smooth seams;
- notch device;
- specially for sewing a codpiece with a hem and sewing a cuff with a zipper, all operations are performed without additional re-equipping.

---

**Machine for sewing a bodice to a belt**

*DURKOPP 550-5-6*

- double chain stitch;
- equipped with a corsage roll holder;
- plate for inserting belts;
- when processing right and left belts, there is no need for retooling.
Impact Factor:

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|----------------|--------------|-----------|-----|--------------|------------------|--------------|----------------|---------|-----|---------------|------------|
|                | = 6.317      | = 0.912   | = 1.500 | = 6.630      | = 1.582          | = 3.939      | = 0.564         | = 9.035  | = 1.500 | = 7.184       | = 0.350    |

Semiautomatic machine for sewing on a trouser tape on the bottom of trousers
*DURKOPP 1500 / 70-2*

- two-needle, chain semiautomatic device;
- the trouser tape is automatically guided, cut off at the end of the seam and then automatically pulled back to the beginning of the seam;
- programming of the supply of the trouser tape

Semi-automatic for fastening belt loops and corners of trouser pockets
*DURKOPP 510-211*

- all bartacking works with the size of the sewing field, starting from $40 \times 20$ mm, used for 0.1 mm steps in length and width;
- 50 pre-programmed standard bartacks;
- when changing the presser foot, the possibility of curly bartacking at the corners of the pockets

Semi-automatic sewing machine for buttons
*DURKOPP 530-211*

- double lockstitch; provides great opportunities for their application;

Codpiece Zipper Slotting Machine
*DURKOPP 50-2-2*

- Perfectly attaches an endless zipper to the trouser codpiece;
- the equipment of the device guarantees adjustment of the zipper without displacement;
- limit ruler controls the seam width

Philadelphia, USA
- it is possible to process buttons with 2, 3, 4 and 6 holes and diameters from 8 to 30 mm;
- the graphic display is serviced and works without any additional programmer

Machine for sewing labels PFAFF 2438-6 / 03-980 / 32 AS

- automatic recognition of the label edge using a sensor;
- 15 programs with 15 matching seam sections;
- the ability to automatically adjust the touch control for various materials;
- adjusting the stitch length using the BDF-S2 control panel

TYPICAL GC8000MD3

- universal automated machine;
- has the function of automatic thread trimming, bartack, thread catcher and stitch adjustment

STROBEL 103-150

- machine for hemming trousers, blind stitch machine;
- equally suitable for hemming light and medium-weight fabrics

One-thread blind stitch machine for making trouser loops STROBEL 103-258 MB

- supply of the cushioning material by the belt conveyor together with the upper material;
- a cutting device with a given belt loop width;
- blind stitch;
- ironing in a steam device;
- belt loops without stitches visible from the outside.
The introduction of high-tech equipment complexes at domestic enterprises on the basis of the above recommendations will make it possible to create a product that is competitive not only in the domestic market of the regions of the Southern Federal District and the North Caucasus Federal District, but also in other local markets, including foreign ones. And if the requirements of Roskachestvo for the localization of production are met, then when the products meet the increased requirements of the Russian quality system, it can be awarded the Russian Quality Mark. And product labeling with this sign opens up new opportunities for both consumers and manufacturers. The consumer receives a clear guideline, which speaks of the high quality of a particular product, as a result of which its sales grow, which will be beneficial to the manufacturer, increasing its import substitution potential, which also allows him to count on an inflow of investments. The use of natural materials as an important factor in increasing the competitiveness of manufacturers of children's clothing.

The second key direction of increasing the competitiveness of summer clothing for children is the use of materials in its production that provide maximum comfort and safety when wearing it. For an active child's body, these characteristics of summer clothes act as the most important ones, especially in hot weather - after all, fabrics of light clothes that are close to the skin must have high air and vapor permeability and good hygroscopicity in order not to impede removal from under the clothing space carbon dioxide, sweat and a number of other metabolic products released by the skin, and there should also be no release of unacceptable harmful substances from tissues.

For preschool children, it is permissible to use capro-viscose cloth and cloth from cotton-lavsan yarn with a nylon and lavsan content of no more than 40% in clothes, as well as cotton cloth in combination with a nylon textured elastic thread (no more than 23%).

However, the most suitable materials for the production of children's clothing with acceptable hygiene characteristics are natural products. Cotton and linen fabrics, as a rule, have good hygienic properties, which is also important for maintaining the mechanisms of heat regulation in children, since at this age they are still as formed as in adults, therefore children are more susceptible to overheating or hypothermia, which can lead to malfunctions in the work of the body, the development of certain diseases. In this regard, the most promising direction for improving the materials used is the use of organic materials.

Organic materials, or eco-materials (biomaterials), have become increasingly popular in
recent years. This is due to the fact that during their cultivation no chemical additives and carcinogenic pesticides are used, which is confirmed by the presence of laboratory test certificates.

The most common eco materials include cotton, linen and bamboo. Thus, organic cotton is even softer and provides maximum comfort due to its close to human Ph-factor. Moreover, this material has antibacterial properties, its air permeability is about 10% higher than usual, its fibers are stronger, which increases the wear resistance of the material. Organic linen is slightly less applicable in the manufacture of children's clothing due to its rigid structure. And the most common eco-friendly material has become bamboo, which has a number of such positive qualities as: silkiness, hypoallergenicity, high hygroscopicity, maintaining thermoregulation, and it also has antibacterial qualities and is very resistant to ultraviolet light, which is especially important in the summer season.

Another worthy representative of organic materials is ramie nettle fabric, which has a fairly high strength, several times higher than the strength of cotton. One of the aesthetic features of this fiber is its shine, which is not lost after washing or under the influence of the sun, but, on the contrary, becomes even more spectacular. Nettle is not prone to decay, which means that there is no need for serious chemical treatments, thereby classifying it as environmentally friendly fabrics. The fiber does not cause allergies and skin irritations, does not contain toxins, and does not use herbicides and pesticides during cultivation. The fiber perfectly absorbs moisture, while the body "breathes" freely. In hot weather, ramie clothing is especially relevant: the fiber allows you to maintain an optimal climate for clothing and protects the skin from various inflammations.

Hemp is one of the most ancient types of cultures used by man for the production of fabric due to its numerous positive properties: the most durable natural fiber, does not stretch, retains the original form of clothing, very soft textiles that become even softer over time, guaranteeing comfort and convenience of clothing, very high hygroscopicity and air permeability. Hemp fibers also have antibacterial and antifungal properties that naturally prevent rotting and the development of parasitic fungi, therefore, pesticides and herbicides are not used in the cultivation of hemp crops. The properties of hemp fibers have also been proven to reduce the effects of ultraviolet rays on the skin: the fabric is able to filter most of the UV spectrum.

A significant limitation in the use of organic fabrics in the manufacture of clothing for both children and adults is their high cost. That is why manufacturers seeking to conquer various price markets should rely on the exclusivity of such products, selling them to other large Russian regional markets, as well as abroad, which should have a positive effect on increasing the manufacturer's brand recognition. To reduce the cost of individual product lines, it is necessary to use blended fabrics containing both organic and conventional fibers. To bring the price even closer to the market average, you can also use fabrics with the addition of artificial fibers, which will also allow you to indicate "made with organic" on the clothing label.

Thus, organic materials have a significant set of useful properties that can positively affect the health of a child when wearing clothes made with their use. Indeed, against the background of the annual deterioration of the ecological situation, the use of synthetics of not the best quality in all household items around a person, including in clothes, it is no coincidence that a fashion for environmentally friendly products appeared: clothing, food, bedding, etc., and many parents strive to protect children from its harmful influence by purchasing products of so-called "eco brands", and someone is just an adherent of the concept of "being in trend". Therefore, the use of natural hypoallergenic materials in the production of children's clothing is characterized by high prospects for increasing the competitiveness of Russian industries.

The use of ecological technologies for the production of children's clothing guarantees the safety of its operation. Unfortunately, in pursuit of maximum profit, manufacturers often try to use cheap raw materials and materials, hiding defects behind a large number of finishing effects, thereby trying to sell bad goods in beautiful packaging. Modern technological methods make it possible to "change the face" of a bad material, but cannot improve its poor performance properties. In addition, in the production of some effects, very harsh chemicals are used that can harm the baby's skin. The ideology of Russian manufacturers of children's clothing should be based on the rule defining the requirement to select only the best raw materials for children's clothing, delicate and ecological processing methods.

An important parameter of the environmental friendliness of clothing is the use of modern anthropometric sizes of children in the development of the design. The use of outdated or foreign anthropometric data in the construction of patterns leads to an incorrect and uncomfortable fit of clothes on modern Russian children. Made in accordance with the current SanPiN 2.4.7 / 1.1.1286-03 "Hygienic requirements for clothing for children, adolescents and adults" labeling of products according to the main dimensional characteristics - chest girth and height, can guarantee the correct selection of clothing. Operating and newly created enterprises and firms in the South of Russia, using the proposed measures, will be able to produce competitive clothing for children in the required volume to meet the demand of various groups of the population with a certain level of income and social security.
Impact Factor:

| Journal | Impact Factor |
|---------|---------------|
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| OAJI (USA) | 0.350 |

Conclusion

The dynamics of market development invariably shows an increase in consumer demand for the quality of goods. For all the economic, social and political costs, humanity is getting richer and wealth is unevenly distributed. Finance, as before, is concentrated in certain regions, however, just like new modern production facilities. Analysts predict the course towards the quality of goods with confidence and everywhere: the mass consumer has realized the need to pay for the advantage of quality services and products. Economists state unequivocally that the improvement in the quality of goods is not causally related to the rise in prices. Positive changes in the quality of goods imply qualitative changes in technology, technology, organization and production management. Manufacturing should improve, but not become more costly.

The expansion of the market for domestic goods will help meet the effective demand of the population for various price groups of products, taking into account consumer preferences. However, the production of children's clothing is associated with a number of economic features that have a great impact on its organization. In conditions when the manufacture of children's clothing is scattered across many non-specialized enterprises and occupies a small share in production programs, the economic interest of garment factories in increasing its output is not always achieved, since the production of this assortment often does not ensure the fulfillment of the technical and economic indicators of the plan. The low level of specialization of production restrains the growth of the production of children's clothing and gives rise to duplication of homogeneous models and styles, limits the possibilities of rational, economical use of fabrics, which helps to reduce the cost and achieve the necessary profitability of the production of products for children. The conditions for reducing the cost of raw materials for the production of children's clothing, and at the same time for increasing labor productivity, are to a large extent achieved by the specialization of production and a more complete use of internal reserves.

To this end, the recommendations proposed above for updating the equipment of enterprises producing clothes for children in order to improve the technological process to increase its flexibility can also be applied at enterprises that sew men's clothing. The implementation of this proposal will significantly reduce the cost of creating a new production, eliminating the need for costs for the construction (rental) of buildings, providing all the necessary communications, hiring the necessary staff of performers, equipping new workshops, creating design and technological departments, state registration of a new production, etc. release of children's clothing in affordable price niches. The implementation of the planned transformations can be implemented using mechanisms of state support.

Leasing is a type of financial services, a form of lending for the acquisition of fixed assets by enterprises or goods of high value by individuals. The lessor undertakes to acquire ownership of the property specified by the lessee from the seller specified by him and to provide the lessee with this property for a fee for temporary possession and use. Most often, this is carried out for business purposes, but from January 1, 2022, this is not necessary in Russia. The lease agreement may stipulate that the choice of the seller and the acquired property is made by the lessor. The lessee may initially be the owner of the property.

Leasing allows the use of accelerated depreciation, it is possible to redistribute the timing of VAT payment. In fact, leasing is a type of long-term lease of property with subsequent purchase option, comparing favorably with a traditional bank loan. The bank begins the procedure for applying for a loan by considering the application, and most banks will certainly require the property that the company already has as collateral. In this case, the loan amount will depend on the value of this property. The bank assesses the property of the company not at the market value, but at the value for which it will be possible to sell the collateral in the shortest possible time. Accordingly, the value of the collateral will be greatly underestimated.

However, during leasing, the lessee receives the equipment it needs and begins to operate it, but at the same time it remains the property of the leasing company. At the same time, the lessee undertakes the obligation to gradually buy out the new property from the company, that is, it kind of leases the equipment. Therefore, in the case of leasing, no collateral or excellent credit reputation is required - the equipment purchased under the lease remains in the ownership of the lessor until the enterprise-lessee pays for it in full. In addition, unlike banks, which issue loans (especially to small businesses) for a period of about five years, leasing companies can significantly increase the term of payments. Depending on the purchase, companies allow themselves to expand the scope up to 10 years. Leasing also provides for the possibility of the lessee to use the property in carrying out entrepreneurial activities and subsequently obtain ownership of it. Leasing agreements may provide for the accounting of property both on the balance sheet of the lessor and the lessee. The buyer of equipment on credit has the ability to transfer the cost of the property to the cost price through depreciation, however, the interest on the loan, accrued after the receipt of the property, is not included in the cost of the property, therefore it cannot be transferred to the cost price.

Lessees, in the case of property accounting on the lessor's balance sheet, have the opportunity to include lease payments in the prime cost, which
ensures the transfer of the property value to the prime cost in a much shorter time compared to the purchase of equipment using borrowed funds. This option, in contrast to the purchase, also allows you to include in the prime cost interest on borrowed funds, which are included in the amount of the lease payment. The option of leasing, taking into account the property on the lessee's balance sheet, also makes it possible to transfer the cost of the equipment to the prime cost through depreciation in a shorter timeframe due to the use of a multiplying coefficient to the depreciation rates, and also to include in the prime cost interest expenses on borrowed funds.

The funds provided by the Industrial Development Fund at a preferential rate of 5% per annum make it possible to finance the necessary development and technological work, without which the production of innovative products is impossible. In addition, the fund mechanism hides a hitherto unused potential, because the allocated funds can be considered not only as a tool for purchasing equipment. These funds, in fact, can become an initial payment for leasing and other payments for the purchase of such equipment. Competent use of this mechanism will allow enterprises to increase the attracted funds by 5 - 8 times.

In the costs of the production of children's clothing, the largest share is made up of costs for raw materials and basic materials, and then for wages and depreciation deductions. The results of calculating the costs in the retail price of children's clothing are shown in Table 10.

In a dynamically changing market environment, the results of an enterprise's activities largely depend on the effective results of production, sales, financial and marketing policies of the enterprise itself, which creates the basis for protection against bankruptcy and a stable position in the domestic market.

The study of the costs of improvement by consumer quality factors for each type of designed product will reduce the risks of losses associated with consumer dissatisfaction, these costs should be taken into account by manufacturers when forming a new assortment.

| Table 10. Share of costs in the retail price of children's clothing, % |
|---------------------------------------------------------------|
| **Indicators**                                               | Minimum meaning | Maximum meaning | The average |
| Raw materials and basic materials minus recyclable waste, by-products and related products | 14.2            | 36.6            | 23.1        |
| The cost of the main raw material                            | 8.1             | 32.7            | 19.2        |
| Cost of other raw materials and basic materials              | 1.2             | 9.6             | 4.1         |
| Returnable waste, by-products and related products (deducted) | 0.01            | 1.4             | 0.3         |
| Manufacturing costs including selling costs                  | 15.7            | 30.9            | 24.3        |
| Auxiliary materials for technological purposes              | 0.1             | 3.6             | 1.0         |
| Fuel and energy, including water and steam for technological purposes | 0.4             | 2.1             | 1.4         |
| Preparation and development costs                           | 0.01            | 0.3             | 0.1         |
| Equipment maintenance and operating costs                    | 0.1             | 2.8             | 0.8         |
| Salary with social contributions                            | 6.3             | 17.9            | 9.8         |
| General business (plant-wide) expenses                      | 1.5             | 10.4            | 5.2         |
| General production (shop) costs                             | 0.7             | 7.6             | 3.9         |
| Other production costs                                       | 0.1             | 3.2             | 0.7         |
| Business expenses                                            | 0.3             | 4.7             | 1.5         |
| Total unit cost                                              | 9.9             | 56.2            | 44.3        |
| Actual profit, loss                                         | 3.8             | 9.9             | 6.2         |
| VAT                                                          | 4.4             | 9.1             | 6.3         |
| Other types of taxes                                        | 0.01            | 0.5             | 0.1         |
| Payment for the delivery of products (goods) to customers, carried out by the enterprise | 0.01            | 0.2             | 0.1         |
The general state of light industry in Russia, its structure, problems inherent in it as a result of the economic reform of the early 1990s and in the current difficult macroeconomic situation are characterized. The main directions of activity, in which the activity on the development of the industry is currently being carried out, in accordance with the adopted Strategy for the development of light industry in Russia, is considered. The geographic features of the regions of the Southern Federal District and the North Caucasus Federal District and the assessment of the number of children are given. The features influencing the formation of the range of children's clothing are analyzed. The principles of a competent assortment policy for the production of competitive children's clothing, taking into account the factors affecting its consumer demand, have been determined:

The requirements for children's clothing and determining its quality are analyzed, of which the most important are the safety requirements established by the technical regulations of the Customs Union TR CU 007/2011, as well as the requirements for materials, the chemical composition and structure of which determine all the basic properties of finished products, divided by nature into physical, chemical, mechanical, biological. Taking into account this factor, all the others are formed: design, technology, etc. Taking into account all kinds of requirements for clothing, it was noted that the production of clothing from natural organic materials is highly promising for increasing the competitiveness of Russian industries in different markets, due to their undoubtedly better hygienic properties.

The influence of innovative technologies on the development of the production of children's clothing has been investigated; recommendations for equipping sewing enterprises of the South with innovative equipment are given. The efficiency of enterprises, and in many respects their ability to survive in the competition, depends on the ability to quickly and with minimal costs reorganize to produce products in accordance with fluctuations in demand, the best opportunities for this are opened by the development and implementation of flexible production systems. The restructuring and technical re-equipment of modern small and medium-sized production of children's clothing, as well as manufacturers of men's clothing with high-performance multifunctional equipment should be facilitated by the widespread introduction of the practice of leasing schemes as the most optimal option for the development of Russian industries.

Thus, the transition of the industry to an innovative development model focused on increasing its competitive advantages, not only meets the vital needs of many regions of the Southern Federal District and the North Caucasus Federal District (reducing social tension, ensuring employment, developing small and medium-sized businesses), but also contributes to the formation of a prosperous, ecologically healthy environment of childhood that meets social needs to ensure a full life.

For the successful implementation of the proposed measures, a real interest in supporting the sewing enterprises of the South on the part of the federal and regional branches of government is necessary, which should lead to a decrease in prices for components, materials, energy costs and transport, providing the manufacturer with the opportunity, due to the price niche, to offer the domestic consumer a demanded and competitive baby clothes. This is able to provide many manufacturers with stable positions not only in domestic, but, which is especially important, in foreign markets.

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Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500
SIS (USA) = 0.912
ESJI (KZ) = 9.035
PJF (Morocco) = 7.184

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