

# The Importance of Marketing Research in The Chemical Industry

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**Abstract:** This article discusses the features of marketing research in the markets of chemical products. Being multifaceted and complex, these researches require a comprehensive analysis by examining raw material aspects, the use of substitute products, hardware design and processes in the factories, as well as, the importance of identifying relationships between consumers and suppliers of raw materials. This work draws attention to the details necessary to successfully conduct marketing research in the field of chemical products, urging caution and studying each aspect carefully because of its importance in avoiding mistakes.

**Keywords:** Marketing research, chemical industry, marketing strategy, consumer research, sales, product distribution, internal environment of the enterprise, unification, trademark, manufacturing plant, pricing.

## 1. INTRODUCTION

In a modern market economy, the success of an enterprise largely depends on quality marketing research. A thorough analysis of consumer needs and preferences, the competitive environment and the latest trends in marketing allows companies to develop effective strategies for product promotion, pricing, distribution and advertising.

In the chemical industry, conducting marketing research is important to identify market needs, analyze the competitive environment, assess the potential of new products and determine strategies for their promotion. Such studies are especially important in the context of the chemical industry due to the specific characteristics of this industry. Many products of the chemical industry are specialized and require a special approach to their promotion. Studying the various marketing channels in this industry allows you to effectively select promotion strategies based on product specifics and consumer requirements, which helps companies successfully manage their marketing efforts. In order to expand the export potential of the chemical industry and ensure transparency of export and import operations, more than 10 decrees and resolutions of the President of the Republic of Uzbekistan have been adopted in recent years. In recent years, measures have been taken to financially and economically improve and stabilize the activities of chemical industry enterprises, to determine the main directions for further development of the industry through the implementation of investment projects aimed at modernizing existing production facilities, creating new capacities for the deep processing of hydrocarbons and mineral resources, as well as expanding the range of products manufactured chemical products with high added value.

## 2. LITERATURE REVIEW

Philip Kotler, one of the leading marketers of our time, pays considerable attention to the issue of marketing research. He emphasizes that marketing research plays a fundamental role in the marketing decision-making process. They help understand consumer needs and preferences, analyze the competitive landscape, identify new opportunities and evaluate the effectiveness of marketing strategies. He also argued that marketing research is the systematic search, collection, processing, analysis and presentation of data and information related to a specific market situation in order to improve the quality of decision-making procedures, study current problems in the product market and control in the marketing environment [1].

According to I.K. Belyaevsky, in contrast to market research, marketing research includes: research of consumers, competitors, sales, goods, product distribution, prices, and the internal environment of the enterprise. Therefore, conducting marketing research requires significantly more information and time than simple market research. The presence of complete and objective marketing information largely determines the company's success in the market [2].

Speaking about modern views of scientists on the essence of marketing research, we note that S.G. Bozhuk defines market research as based on scientific methods and must be conducted in accordance with generally accepted principles of fair competition, confidentiality and objectivity. Marketing research cannot be considered based on data obtained through industrial espionage or deception. Marketing research is carried out either by the firms' own marketing services or by specialized marketing firms on a commercial basis [3].

B. E. Tokarev notes that marketing research projects must have an organizational, thoughtful nature with clearly planned successive stages and methodologically sound and documented procedures. Their implementation is carefully planned, each action is pre-thought out [4].

According to E.A. Kostyukevich, “when entering new foreign markets, an organization must analyze the investment climate and determine its market attractiveness. When developing a marketing strategy, the level of development of countries should be taken into account. To take a leading position in the industry structure, an organization must develop a competitive policy and its products must be interesting to consumers” [5].

When implementing and promoting marketing innovations on the foreign market, various forms of cooperation between chemical industry organizations, such as consortia, engineering centers, scientific and technological parks, have proven themselves well. HE. Kudinova notes that “their existence is caused by the awareness of the objective need for a forward-looking orientation, interest in the scientific novelty of industrial innovation, which is often secondary in the activities of industrial companies that primarily solve production and commercial problems”. [6]

B. Gerasimov believes that the marketing research process contains the following stages and procedures [7]. Definition of the problem and objectives of the study. This includes:

- 1) determining the need for research;
- 2) problem statement;
- 3) formulating the goals of the research being carried out.

Development of a research plan, which includes:

- 1) selection of methods for conducting marketing research;
- 2) determining the type of information required and sources of obtaining it;
- 3) determining methods for collecting the necessary data;
- 4) development of forms for data collection;
- 5) development of a sampling plan and determination of sample size.

Implementation of the research plan. Data collection and analysis [11]. Among domestic scientists, Sh.Zh.Mamatkulova considered various processes of marketing research, which includes a number of operations that constitute the stages of their implementation. There are several approaches to the stages of marketing research (Fig. 1).



Fig.1. Stages of marketing research

As can be seen from this figure, the technology of conducting marketing research presupposes the presence of two interrelated parts: firstly, the study of external variables, which, as a rule, cannot be regulated by the management of the company and therefore, successful commercial activities require flexible adaptation to them, and, secondly, an analysis of the internal components of organizations under the control of the administration, and certain reactions of the company to changes in the environment. It should be noted that the decision to conduct marketing research is made by the management of the enterprise (company) and is therefore subjective, that is, it depends on the point of view and way of thinking of top management.

Defining the problem is recognized by all authors as the most important stage of marketing research. The form, breadth and depth of the study, as well as its final results, depend on this. [8]

So, summarizing the above, it should be noted that in modern conditions, marketing research is the process of collecting, analyzing and interpreting information about the market, consumers and competitors in order to make

informed marketing decisions. It allows companies to better understand their target audience, interact with them and meet their needs.

The marketing research process involves defining the problem, planning and conducting the research, collecting and analyzing data, and preparing a report and recommendations. The research results help businesses make informed decisions, optimize their marketing efforts and better meet customer needs.

### **3. METHODOLOGY**

In the process of research, general scientific methods were used: analysis and synthesis, comparison and survey, literature study, mathematical analysis, statistics, observation.

### **4. ANALYSIS AND RESULTS**

Tursunov B. O. [12,16] investigated mechanism for determining optimal management of use of production capacity at the textile enterprises, Umarhodjaeva M.[13], Rustamov, N., Umarova G. researched Industrial Production Potential in Ensuring the Economic Security of the Regions, Mustafakulov S. I.[14], Zarova, E. V. researched efficiency of use of production capacity at the enterprises of textile industry on the basis of methods of multivariate statistical analysis, Yuldashev N. K.[15], Nabokov, V. I., Nekrasov K. V.'s work dedicated to innovative and export potential of the agro-industrial complex of Uzbekistan.

The chemical industry plays an important role in the economy of any country. Products of the chemical industry are used in various sectors of the national economy, including textile, woodworking, food, construction, agricultural, engineering and other industries. The development of the chemical industry helps to increase the competitiveness of the economy through the production of products with higher added value.

It is important to note that many chemical industry products are feedstocks into the chemical industry itself, where they are processed into more highly processed products. This allows the creation of value chains and contributes to the diversification of production.

In light of all these factors, improving the marketing research methodology in the chemical industry becomes even more important, since understanding market trends and consumer needs is important for the development and successful marketing strategy in this strategically important industry. Wholesale sales of mineral fertilizers by enterprises that are part of Uzkimyosanoat JSC are carried out at the commodity and raw materials exchange, while wholesale buyers at exchange auctions are territorial Agrokimyokhimoya JSC, clusters and other consumers.

Marketing research in the chemical industry of the Republic of Uzbekistan represents an important analysis that covers various aspects of this industry. The study includes an analysis of the current demand for chemical products, major market players, consumption trends, competitive environment, market opportunities for new products, analysis of the legislative framework and government initiatives, as well as forecasting the development of the industry in the medium and long term. The described features indicate an integrated and multifaceted approach to conducting research in the markets of chemical industry products. The need to study and forecast demand in various applications of the same product, taking into account its modifications and properties, is a key aspect to understand the many potential market segments and develop appropriate marketing strategies.

It is also important to note that conducting in-depth research in this industry is impossible without a comprehensive knowledge of the applied production processes, technologies and methods for producing higher-level chemicals. Understanding these aspects plays a fundamental role in identifying market needs, developing new products and promoting them in the market.

In order to expand the export potential of the chemical industry, ensure transparency of export and import operations carried out by organizations of Uzkimyosanoat JSC, effectively promote competitive products to foreign markets and ensure achievement of established target parameters and implementation of measures provided for by the Chemical Industry Development Program for 2017 - 2021, approved by Resolution of the President of the Republic of Uzbekistan dated August 23, 2017 No. PP-3236. By this resolution, a foreign trade company was created in the system of Uzkimyosanoat JSC - a single agent for export-import operations in the form of a limited liability company "Uzkimyoiimpex". [9].

The volumes of exports of mineral fertilizers and other chemical products are determined annually by government decisions on the Balance of Production and Sales of Mineral Fertilizers, as well as by the Decree of the President of the Republic of Uzbekistan "On the Forecast of Exports of Goods and Services."

Enterprises of the chemical industry of the Republic of Uzbekistan annually export 42-44 types of goods. The main products are: ammonium nitrate, urea, ammonium sulfate, potassium chloride, soda ash, ammophos, ammonia, sodium

chlorate, etc.

Mineral fertilizers produced by enterprises of the republic are exported to more than 30 countries of the world. The priority destinations for export remain the countries of Southeast Asia (India, Vietnam, Sri Lanka, Bangladesh, Malaysia, etc.). The export potential of 350-400 thousand tons demonstrates the significant volume of production and the ability of the republic's enterprises to meet the demand for their products not only in the domestic market, but also abroad.

Today, there are 21 enterprises operating in the chemical industry, 1.6 times more than in 2017. Among them are such large enterprises as Navoiyazot JSC, Maksam-Chirchik JSC, Fargonazot JSC, Ammophos-Maxam JSC, Dekhkanabad Potash Plant JSC, Kungrad Soda Plant JSC, First Rubber Equipment Plant LLC " and others. Today, the enterprises of Uzkimyosanoat JSC produce more than 180 types of chemical products.

The volume of products produced by the chemical industry of Uzbekistan in 2017-2022 increased from 9.9 trillion soums to 33.4 trillion soums, and the volume of production of mineral fertilizers increased from 1,149.9 thousand tons to 1,484 thousand tons. The volume of exports over 6 years increased by \$513.2 million. In order to reduce imported products, the volume of domestic production increased from 167 billion soums to 2.6 trillion soums. Investments increased by 63.3% to \$458.3 million.

The share of the chemical industry in GDP increased from 1.3% to 1.5%, and industry profitability increased from -1.2% to +20.8%. Employment in the chemical industry increased from 49 thousand people in 2017 to 51.2 thousand people in 2022, and the average wage of workers increased from 1.5 million soums to 4.6 million soums.

To maintain and expand such a successful export business, enterprises are advised to continue to actively study market requirements, carry out market research and maintain high product quality, as well as search for new potential markets and promote their products in these regions.

Strategically significant and economically beneficial for the export of mineral fertilizers are neighboring countries, such as Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, with a potential of up to 450 thousand tons of mineral fertilizers per year, as well as neighboring countries, including Afghanistan, Iran and Turkey, with a potential of more than 100 thousand tons per year. The global chemical distribution market was valued at US\$266.67 billion in 2021. Market value is projected to rise to US\$363.31 billion by 2026. The projected increase in market value is due to several factors such as the integration of artificial intelligence (AI) in chemical distribution, outsourcing, consolidation and increased investment in research and development. Integrating AI can improve inventory management, marketing and chemical distribution processes. Outsourcing and consolidation can help streamline operations and improve efficiency. Increased investment in research and development can lead to the development of new products and technologies, which in turn stimulates demand and market growth. Thus, the above-mentioned factors are expected to lead to sustained growth in the global chemical distribution market during the forecast period.

It should be noted that the largest chemical corporations in the world are American companies such as Dow Chemical, LyondellBasell and DuPont, which are among the top five global leaders. In addition to them, there are another 170 large chemical companies in the United States with 1,700 branches and 2,800 plants around the world. Also, European chemical companies (from Western and Eastern Europe, as well as CIS countries) currently control a fifth of the market, holding positions in the production of classic types of products using local raw materials and waste from other industries.

The European region, especially represented by the EU countries, is the largest exporter and importer of chemical products in the world, namely 42.5% of exports and 35.3% of imports, respectively. Products of advanced processing of hydrocarbon raw materials and special chemicals make up a significant part of sales in the European Union.

Exported chemicals include both basic chemicals and household chemicals, while domestic exports within the EU are almost twice as high as external exports (including countries in the North American Free Trade Agreement (USA, Canada and Mexico) and Asia). These data demonstrate the significant role of Europe in the global chemical industry, both in terms of production and trade in chemical products. This high share of exports and imports underscores the region's importance in the global economy and highlights its leading position in the international chemical industry.

At the end of the COVID-19 pandemic in 2020, many companies around the world faced significant challenges. Some industries have been hit harder than others by significantly reduced demand, interrupted supply chains and lockdowns to prevent the spread of the virus. The world's largest companies, like many other businesses, are facing serious challenges. Some of them were able to maintain their positions through innovation, strategic management and diversification, while others, especially in the tourism, entertainment and airline industries, found themselves in more dire straits.[10].

However, detailed analyzes and rankings like those presented by Forbes can provide a more accurate picture of

which companies and industries have been hit hardest and which have been able to successfully overcome the challenges posed by the pandemic. The market value of most companies included in the Global 2000 list has fallen significantly compared to last year, and due to the suspension of operations in 2019, many companies have seen a decrease in product sales.

Today, the largest chemical companies remain the American and European giants of the chemical industry, such as BASF, Dow Chemical, Bayer, DuPont, LyondellBasell, ExxonMobil Chemical, SABIC, Shell Chemicals and others. These companies are world leaders in the production of a variety of chemical products, from basic and specialty chemicals to plastics, fertilizers, pharmaceuticals, and other products.

In addition, Asian companies such as Sinopec, PetroChina, and Saudi Basic Industries Corporation (SABIC) also have significant positions in the global market. Such giants of the chemical industry determine the development and trends of the industry, making significant contributions to innovative technologies, sustainable production and transformation of the chemical industry. The largest chemical companies producing mineral fertilizers today are such world leaders as Yara International, The Mosaic Company, PotashCorp, Agrium and EuroChem. These companies occupy leading positions in the mineral fertilizer industry and have significant influence on the global market for agricultural inputs.

The largest fertilizer producers in the world: China (share of about 30%), USA (13%), Russia (12%), India (10%) and Canada (9%). The largest producers, with the exception of Russia, are focused on the domestic market, so Russia is the world's largest exporter. The table below examines the share of domestic producers of chemical fertilizers (such as urea and calcium chloride) of the Republic of Uzbekistan in the world.

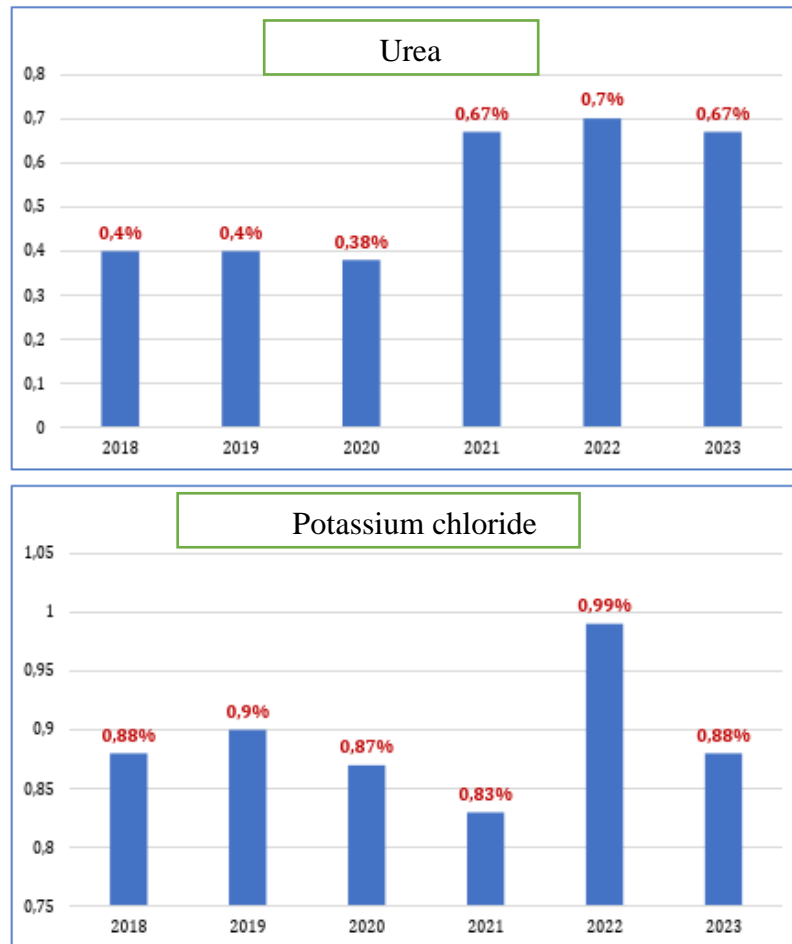


Fig. 2 – World share of production of chemical fertilizers in the Republic of Uzbekistan (the 2023 column shows results for 7 months)

## 5. CONCLUSIONS

Industrialized countries have concentrated in their hands the bulk of the production of high-tech materials for special purposes through innovation and long-term targeted structural restructuring. At the same time, large-scale production, which has not lost its importance as the main suppliers of basic products for the chemical industry, is actively moving to regions provided with inexpensive raw materials and cheap labor.

A serious factor changing the face of the global chemical industry is the active development of petrochemicals in the countries of the Middle East and the transition of some large consumers of Russian products - for example, China - from importing products to their own production and export.

In the “Road Map”, approved by the decree of the President of Uzbekistan, Shavkat Mirziyoyev, on the modernization of production facilities, deepening the processing of basic products, rational use of assets and the introduction of modern management methods in the activities of Uzkhimprom JSC, it is planned that the total output of chemical industry products in Uzbekistan to By 2031, it will increase by 4.5 times, exports will increase by 4 times. At the same time, according to plans, the share of organic chemical products in total production will increase from 7 to 54%.

The main tasks of the chemical enterprises of the Republic for the coming years are the implementation of a unified technical policy aimed at modernization, reconstruction and technical re-equipment of the chemical industry, with the introduction of modern effective resource-saving technologies that ensure a reduction in the cost of products and an increase in their competitiveness.

This first of all requires the development and implementation of medium- and long-term programs aimed at the sustainable development of the chemical industry and the development of new types of competitive chemical products.

Potential opportunities for the development of the chemical industry of the republic must be focused on the development of new types of products from hydrocarbons (methane, ethane, propane, butane) and deep processing of mineral resources.

In addition, it is necessary to increase the volume of production of finished export-oriented chemical products with high added value based on deep processing of mineral resources.

It is necessary to conduct in-depth marketing research of domestic and foreign markets in order to determine the current and future needs of economic sectors for chemical products and expand export potential.

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