



# Investigating and Ranking of Barriers Affecting Development of Pharmaceutical Industry Exports in Iran: AHP Method



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## ABSTRACT

**Background:** The study aimed to investigate and rank the barriers affecting the development of pharmaceutical industry exports in Iran's AHP method.

**Methods:** The research applied and descriptive method, a field documentary. The study's statistical population was all pharmaceutical organizations that operate in the direction of export to other countries; the study's statistical population consisted of business managers and professors working in the field of export and marketing managers of exporting pharmaceutical companies. The method of data collection was using a questionnaire. The data analysis method was a hierarchical analysis method using a decision tree.

**Results:** Evaluation of the results obtained for the barrier of workforce and knowledge of indicators of access to specialized and skilled labor in the field of drug production, skills and technical knowledge in the company in innovative design and development of new products, existing knowledge infrastructure for clinical trial studies In the country of origin, access to a specialized and skilled workforce in the field of drug export, the number of academic and research centers in the field of medicine, the relationship of academic and research centers in the field of medicine with industry and access to cheap labor and the necessary knowledge in compiling and collecting documents Necessary for export to target countries were approved.

**Conclusion:** For many firms, the most important external factors that prevent barriers to entering international markets include tariff and non-tariff barriers, foreign exchange rates, fluctuations, competition in foreign markets, government policies, foreign trade practices, and different product and



consumption standards. [18] Similarly, operational barriers include the terms of receipt and payment from foreign buyers, establishing transport arrangements, customs clearance, representation, and managing international distribution channels through international markets.

**Keywords:** Pharmaceutical barriers, Pharmaceutical Industry, Pharmaceutical Exports

## Introduction

Every company and organization, both in developed and developing countries, faces many obstacles to entering the new market that they must overcome; However, this is more difficult in developing countries, especially in the face of global competition and protection measures such as tariffs, quotas, monetary barriers, and non-tariff barriers [1]. The export environment combines social, technological, economic, political, international, and transport environments [2]. Foreign trade forms a significant part of the total trade of many countries, and from the early 19th century until foreign trade has evolved. History, its importance, and its role in economic growth and development have constantly been increasing [3]

A conscious presence in the global market without many appropriate trade policies seems impossible for many developing countries. One of the applied studies that can guide economic policymakers to make appropriate decisions is to identify internal and external factors affecting exports [4]

The pharmaceutical industry plays an integral role in medicine [5]. In order to strengthen the position of the pharmaceutical industry in the healthcare system and deal with the problems caused by the competitive environment, public and private medical organizations need proper management policies [6]

The global pharmaceutical industry, with a market value of more than one trillion dollars and an annual investment of more than one hundred billion dollars in research and innovation, is one of the global strategic industries. Iran's pharmaceutical industry is also one of the key industries in the country, with a value of more than five thousand billion tomans and the production of more than 1200 items. Intelligence and proper understanding of market changes and technologies, coordination, integration, and marketing of existing organizational resources to face the opportunities and threats of increasing change, increase the capacity for innovation in organizations and so increase the competitiveness of enterprises [7]

In recent years, companies have experienced a complex and dynamic environment. Constant changes in customer needs and preferences, the introduction of new products, increased competition, and uncertainty in decision-making have led to a more complex market environment [8]. Given the history of international business, many pharmaceutical companies are interested in exporting. Exports help private companies and play an essential role in improving the trade balance. This can increase competition and help companies do their financial and strategic goals. [9] Exports are often an attractive tool for exploiting foreign market opportunities. Since export is the most common form of international trade partnership, attention to its development understands the factors affecting export performance [10]. Compared to countries such as India, China, and Turkey, which are emerging markets in the pharmaceutical industry, have cooperated with major pharmaceutical companies in the world in the production of licensed drugs, and our country's pharmaceutical companies, due to introverted approach and self-sufficiency in production Medicinal products do not have this advantage. Although in terms of drug production, more than 95 drugs are required by the country producing domestically, this issue is very positive in terms of the self-sufficiency of the country's pharmaceutical industry. However, what is more, important are the factors affecting growth and development. Is the pharmaceutical industry [11]

Iran's pharmaceutical industry has experienced an average growth rate of 28.38% over the past ten years. The value of domestically produced drugs is \$ 1.639 billion, while imported products are worth \$ 0.828 billion over the same period. In addition, the Iranian pharmaceutical industry has seen many changes in recent years; Manufacturers work in an increasingly demanding environment and need more incentive to sell and improve quality due to a lack of competition.

Therefore, in today's world, where the business environment is more competitive and unpredictable than before, companies must use superior approaches and develop their competencies and capabilities to survive and

achieve business goals in the face of a lack of confidence. Since international trade is developing rapidly, exports are essential for the growth and survival of pharmaceutical organizations, so the growth and development of the country's pharmaceutical industry must be approached with a scientific and appropriate perspective; Therefore, the purpose of this study is to investigate the question of what are the practical barriers to the development of pharmaceutical industry exports in Iran?.

### Method

The research method was applied and descriptive; the statistical population was all pharmaceutical organizations exported to other countries, and the statistical sample of the research consisted of business managers and professors working in the field of export and marketing managers of exporting pharmaceutical companies. Data analysis was performed through hierarchical analysis and a decision tree model.

### Findings

17.9% of the respondents are under 30, 56.6% are between 30 and 40, and 25.5% are over 41. 11.3% of the respondents have a diploma, 11.3% have a master's degree, 52.8% have a bachelor's degree, and 24.5% have a master's degree. 13.2% are women, and 86.8% are men. Finally, 5.7% of the personnel have a relatively high level of familiarity, 41.5% have a high level of familiarity, and 52.8% have an utterly high level of familiarity.

Figure (1) shows the prioritization of barriers affecting the development of export of pharmaceutical industries in Iran with the help of Expert Choice software. The barrier of market characteristics of the destination country with a relative weight of 0.283 is the most important; Therefore, among the obstacles affecting the development of the pharmaceutical industry, exports in Iran have the highest priority, and the obstacle of the supply chain of production inputs, value chain of products and distribution with a relative weight of 0.195 is the next priority, other obstacles are geographical, managerial knowledge, respectively. Governance policies of the destination country, market characteristics of the country of origin, governance policies in the country of origin, staffing and knowledge, technical and technological and intellectual property and credit with weights of 0.145, 0.102, 0.083, 0.071, 0.046, 0.027, 0.018 and 0.016 are in the third to tenth ranks. Finally, the last priority is the economic dimension barrier, with a relative

weight of 0.015. The incompatibility rate of pairwise comparisons is 0.05, which is less than 0.10; these comparisons are acceptable.

### Conclusion

In concurrent studies, Porter (1980) showed that the six primary sources of barriers to entry include: 1) existing costs; 2) product differentiation; 3) required capital; 4) customer costs; 5) access to distribution channels, and 6) government policy [12]

Kausgill and Naver (1987) showed that financial and personnel resources are essential factors in overcoming barriers to entry into international markets, as well as the lack of proper use of resources and the involvement of the destination country in the export, financial and non-financial activities of a company. In international markets [13]. Barbosa, Ayala, and Sandoval (2016) showed that the role of variables in supply costs, logistics, previous export experience, and organizational environment is critical in improving exports in the pharmaceutical sector in the Colombian pharmaceutical industry. [8] The readiness of companies to export does not have a significant relationship with the volume of their exports in the current situation, but it can predict the performance of exports [9]. Alvarez (2004) divided companies' export barriers into internal, domestic, and foreign barriers [14]. Harvey (2010) states that Skills and resources (market access, technology,) physiological factors (risk, trust,) and external barriers, such as government policies and domestic and foreign market conditions, and so on, are the most significant barriers. Export knew [15]. Ortega Ortiz and Fernandez Ortiz (2010) considered barriers to knowledge, resource, procedural and external barriers [16]. Yashanlavi et al. (2013) showed that the factors of laws and regulations, the banking system, and obtaining health licenses have been of the most significant importance on the structure of barriers to export development [17].

Yang, Leona, and Alden (1992) classify barriers into three categories: 1) external barriers, 2) operational barriers, and 3) internal barriers. For many firms, the most important external factors preventing entry barriers to international markets include tariff and non-tariff barriers, foreign exchange rates, fluctuations, competition in foreign markets, government policies, foreign trade practices, and different product and consumption standards. [18] Similarly, operational barriers include the terms of receipt and payment from foreign buyers, establishing



transport arrangements, customs clearance, representation, and managing international distribution channels through international markets. [19]

Based on the obtained results, it is suggested that considering the sanctions situation of the country and, on the other hand, the compliance of the majority of countries with the United States in this field, advantages such as lower prices compared to similar products with even better quality can work in this field. On the other hand, focusing on exports to neighboring countries can be the most productive at the lowest cost.

Creating suitable platforms for creating long-term contracts for receiving raw materials can have a production advantage to some extent. In the first stage, the focus should be on the neighboring countries, and in the second stage, the countries with anti-sanction policies should be included in the plan of action and planning.

Creating contracts with universities and knowledge-based companies in this field can solve the problems of up-to-date technology. By participating in domestic and international conferences in the field of up-to-date knowledge and a kind of knowledge frontier of the world, the necessary planning can be done to localize and close contracts with prominent companies. By establishing diplomatic relations with the Ministry of Foreign Affairs and concluding legal contracts

with high precision to avoid sanctions, it is possible to act with the help of the best lawyers. On the other hand, the necessary planning should be done with the increase of deep economic ties with independent countries in foreign policies in exporting these products.

Among the research limitations was the extent of influential and determining factors in the field of barriers affecting the development of pharmaceutical industry exports and time constraints and the impossibility of examining the issue in larger communities and comparing the results.

**Ethical Considerations**

**Compliance with ethical guidelines**

This study was approved by the ethical committee of the Tehran University of Medical Sciences (TUMS). All the participants accepted enrollment in the study orally and all of the data that were gathered was considered confidential.

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**Conflict of interest**

All authors declare no potential conflicts of interest in conducting the study and publishing the article.

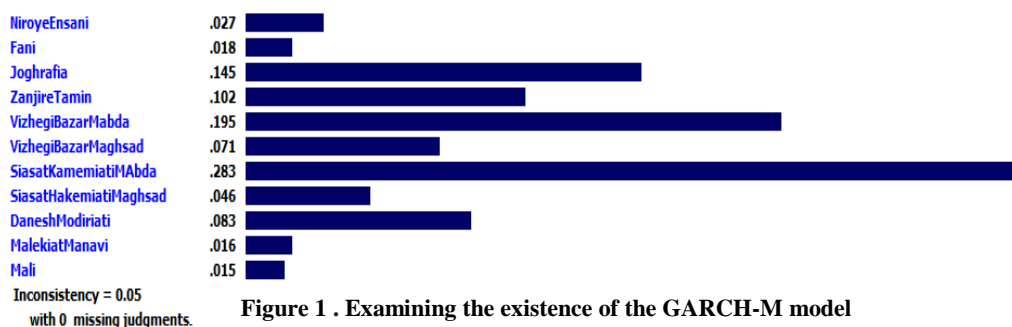


Figure 1 . Examining the existence of the GARCH-M model

Table 1Prioritization of barriers affecting the development of pharmaceutical industry exports in Iran

Components	priority	Weight
Manpower and knowledge	8	0.027
Technical and technology	9	0.018
Geographical	3	0.145
Management knowledge	4	0.102
Supply chain of production and distribution inputs	2	0.195
Market characteristics of the country of origin	6	0.071
Destination country market features	1	0.283
Governance policies in the country of origin	7	0.046
Governance policies of the destination country	5	0.083
Intellectual property and credit	10	0.016
Financial dimension	11	0.015

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