

Islamic Republic of Iran

Iranian Organization for Investment and Economic and Technical Assistance

" Summary of technical-economical prefeasible study "

Plan Name:

Solid and Semi-Solid Drug Production Site

Sector: productive

subsector: pharmaceutical industry

isic code: 2423416369

Plan Owner:

Kermanshah University of Medical Sciences

Plan Preparation Consultant:

Razi University

Plan Address:

Kermanshah

P.F.S Preparation Date:

15/03/2025

National Investment Opportunities Database
Management of Iran
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1- Abstrac:

Project Introduction
1- Project title: Solid and Semi-solid Pharmaceutical Production Site
2- Sector: Manufacture of chemical materials and products Sub Sector: Manufacture of pharmaceutical products, chemicals used in pharmaceuticals and herbal medicinal products
3- Products / Services: The target product of the plan is from the group of manufacturing chemical substances and products (24) from the sub-group of manufacturing pharmaceutical products, chemicals used in pharmaceuticals and herbal medicinal products (2423).
4- location (address): The warehouses of the University of Medical Sciences in Zagros Industrial Town
5- Project description:

This project is designed based on the capacity of 404500000 units per year, after obtaining the necessary permits, it will start construction, obtain the operating license, and then start operating, therefore, from its annual income, which includes the sale of solid and semi-solid referees. He is able to cover his expenses and earn annual income. . According to the existing drug production standards, to build a solid and semi-solid drug production site with a capacity of 404500000 units per year, 10,000 square meters of land is needed, of which 6,000 square meters are covered space and 4,000 square meters are uncovered space and the rest is for the open area of the unit. Industrial is needed. For this set, a power supply and transformer have been selected, which will be supplied from Zagros Industrial Town. Also, the concession of water from Zagros industrial town has been considered for the complex. The plumbing of the area, inside the sheds and other parts of the production unit will be done by a qualified contractor.

6- Annual production capacity: Capacity of 404500000 units per year

Project Status

7- Local / internal raw material access : Yes

8- Sale :

- Anticipated local market: 100%

- Anticipated export market : 0%

9 – Total time required to build the project: The implementation of the project until its operation is planned for 1 year and 5 months.

10- Project status :

- Feasibility study available? **Yes**
 - Required land provided? **No**
 - Legal permissions (establishment license, foreign currency quota, environment, etc) taken? **No**

- Partnership agreement concluding with local /foreign investor? **No**
 - Financing agreement concluding? **No**
 - Agreement with local /foreign contractor(s) concluding? **No**
 - Infrastructural utilities (electricity water supply, telecommunication, fuel, road, etc) procured? **yes**

- List of know- how, machinery, equipment, as well as seller /builder companies defined? **yes**

- Purchases agreement machinery, equipment and know-how concluded? **No**

Financial Table

11- Financial structure :

Descripti ons	Local Currency Required			Foreign Currency Required Million Euro	Total Million Euro
	Million Rials	Rate	Equivale nt in Million Euro		
Fix Capital	1,323,54 0	700,000	1.89	1.89	1.89
Current Capital	79,412	700,000	0.11		0.11
Total Investment	1,402,95 2	700,000	2		2

- Value of foreign equipment / machinery0..... Million Euro
- Value of local equipment / machinery0.84..... Million Euro
- Value of foreign technical know-how.....0..... Million Euro
- Value of local technical know-how.....0..... Million Euro
- Net present value (NPV):5.83..... Million Euro
- Internal Rate of Return (IRR):68.40%
- Payback Period 2 years & 10 month & 15 days
- Capital Rate of Return: ...20%

General Information	
12 - Project type : Establishment <input checked="" type="checkbox"/>	Expansion and completion <input type="checkbox"/>
12- Company Profile	
<ul style="list-style-type: none"> - Name (Legal/Natural persons) : Dr. Sadegh - Company's current activities: University of Medical sciences - Address: University of Medical sciences, Shahid Beheshti Blvd, Kermanshah, Iran. - Tel: 08338214399 Fax: +988369855 E-mail: htc@kums.ac.ir Web Site: https://kums.ac.ir - Company's legal structure : Government <input checked="" type="checkbox"/> Non-Governmental <input type="checkbox"/> Public non-governmental <input type="checkbox"/> 	

2- Plan Location:

2-1. Province:

The Kermanshah province, with an area of 25,009 square kilometers, is located in the western part of Iran. As the 17th largest province in the country by area, it is situated between the $33^{\circ}40'$ and $35^{\circ}18'$ northern latitudes and $45^{\circ}24'$ to $48^{\circ}07'$ eastern longitudes, relative to the Greenwich Meridian. It borders the Kurdistan province to the north, Lorestan and Ilam provinces to the south, Hamedan province to the east, and Iraq to the west, with a 371 km shared border. Kermanshah

(Province's Location
Map Within the Country)



province covers 1.5% of the country's total area. According to the current administrative divisions, Kermanshah province comprises 14 counties, 31 cities, 86 rural districts, and 2,793 inhabited villages. Based on the latest population and housing census by the Statistical Center of Iran in 2016, the population of Kermanshah province was 1,952,434 people, spread over an area of 25,009 square kilometers, giving a population density of 78 people per square kilometer. The most populous city in the province is Kermanshah city, the provincial capital, with a population of 946,651 people. In terms of total road length (excluding rural roads), Kermanshah ranks 11th in the country. In terms of the length of highways and expressways per 1,000 kilometers of road, it ranks 17th, and for the length of main roads, it ranks 18th in the country. The largest share of roads in the province, as expected, is in the Kermanshah county, which also holds the largest share of the province's area.

Kermanshah Province is strategically positioned with six border markets and official crossing points, namely Khosravi, Parvizkhan, Somar, Shushmi, Sheikh Sallah, and Tileh Kuh. This geographical advantage, combined with its inherent tourism potential, positions the province as a significant contributor to foreign exchange and national income generation. A pivotal approach to enhancing these economic contributions lies in the advancement of infrastructure, particularly in road development and the optimization of transportation logistics. Kermanshah International Airport currently stands out as one of the leading airports in Iran,

demonstrating robust flight connectivity. Furthermore, plans are underway to integrate the regional railway network with the Khosravi international border, facilitating seamless trade and travel to Iraq, thereby bolstering cross-border economic collaboration.

2-1-1. Climate

Climate Type: The province exhibits a diverse climatic profile. The northern regions are characterized by a cold montane climate, with significant altitude-induced temperature variations and precipitation patterns. In contrast, the southern areas are dominated by a hot arid climate, marked by limited rainfall and high evaporation rates.

2-1-2. Water Resources

Rivers: The primary watercourses in the region include the Kermanshah River (Gamasiyab), which serves as a critical resource for agricultural irrigation and industrial processes. Its hydrological contribution is essential for sustaining local economic activities and supporting agricultural productivity.

Wells: The prevalence of deep wells in specific regions facilitates the extraction of groundwater, providing essential resources for both potable water supply and agricultural irrigation.

2-1-3. Infrastructure

Roads: A comprehensive network of roadways links multiple urban centers, with the Kermanshah-Tehran highway serving as a critical artery in this infrastructure. This highway is vital for facilitating regional connectivity and supporting economic activities between the two prominent cities.

Airport: Kermanshah International Airport serves as a vital transportation hub, facilitating connectivity within Iran and to adjacent nations. Its strategic location enhances regional accessibility and supports both domestic and international travel operations.

Railway: Ongoing railway development projects will strengthen rail connections.

2-1-4. Economy

Agriculture: Agriculture serves as a fundamental pillar of the province's economic framework, with key commodities including wheat, barley, saffron, potatoes, and grapes playing a significant role in both regional and national markets.

Industry: Processing industries such as food production, textiles, and building materials are growing. Additionally, the presence of building stone mines, such as marble and travertine, has created investment opportunities.

Tourism: The processing sectors, including food production, textiles, and building materials, are experiencing significant expansion. Furthermore, the availability of raw materials from building stone quarries, specifically marble and travertine, is fostering new investment opportunities in the market.

2-1-5. Investment Opportunities

Considering the geographical and economic attributes of Kermanshah province, there exists a diverse range of lucrative investment prospects:

1. **Sustainable Agriculture:** Investment in modern agricultural technologies to increase productivity in agricultural production.
2. **Tourism Industry:** Development of tourism infrastructure, such as hotels and recreational centers.
3. **Health Industry:** The province is experiencing a significant increase in the production of health-related products, encompassing medical equipment and pharmaceuticals, with a particular emphasis on herbal medicines. This surge is largely attributed to the region's rich biodiversity of medicinal flora. Concurrently, there is a growing demand for health-oriented services, notably health tourism, fueled by advancements in healthcare infrastructure within the province. These developments indicate a promising trajectory for both the local economy and the overall health sector.
4. **Mining Industry:** Extraction of minerals while adhering to environmental principles.

5. Infrastructure Development: Investment in public transportation and road networks.

2-1-6. Investment Opportunities in the Health Sector

Kermanshah province stands out as a strategically important region in Iran, presenting substantial investment opportunities in the health sector. This potential stems from several key factors:

1- Healthcare Infrastructure

Healthcare Centers: The province is served by a comprehensive network of healthcare institutions managed by Kermanshah University of Medical Sciences. This network encompasses a variety of facilities, including general hospitals, specialized care clinics, and private medical establishments, each contributing to the region's healthcare delivery system.

Medical Education: The establishment of Kermanshah University of Medical Sciences, alongside innovation and growth centers, as well as the Health Science and Technology Park, positions the province as a critical hub within Region 3 of Iran's national development strategy. This infrastructure guarantees a consistent output of a qualified and technologically adept workforce tailored for the healthcare sector, enhancing the region's capacity to meet evolving demands in medical and health-related fields.

2. Market Needs

Increasing Demand: Given the province's substantial population of approximately 1.9 million and the escalating demand for healthcare services, there is a significant expansion in the market for health-related products and services. This growth highlights the increasing complexity of healthcare needs and presents opportunities for innovation and investment within the sector.

Healthcare and Preventive Services: The increasing focus on healthcare, preventive services, and improving the quality of life creates new investment opportunities.

2-1-7. Types of Special Investment Opportunities in the Healthcare Sector:

- I. Production of Health-Related Goods: Investment in the production and supply of medical equipment and pharmaceuticals.
- II. Consulting Services: Providing consulting services in the fields of medicine, mental health, and nutrition.
- III. Digital Health: Development of applications and online services in the health sector.

2-1-8. Conclusion:

Kermanshah province presents significant economic development opportunities, attributable to its distinct geographical characteristics. With a wealth of natural resources, robust infrastructure, and a skilled labor force, the province has the potential to attract both domestic and international investors, especially in the health sector. Investment in the production of health-related goods such as medical devices, pharmaceuticals, and particularly herbal medicines—leveraging the region's diverse range of medicinal flora—can yield substantial returns. Additionally, the province's advancements in healthcare infrastructure position it favorably for health-centric services, including health tourism. The combination of these factors could foster a promising landscape for future investments and economic growth in Kermanshah.

2-2. County:

Kermanshah County functions as a geopolitical unit within Kermanshah Province, with the city of Kermanshah serving as both its administrative center and the provincial capital. According to the 2016 census, the population of Kermanshah County was recorded at 1,083,833. Geographically, the county is bordered by several regions: to the north, it shares boundaries with Kurdistan Province and Rawanser County; to the west, it is adjacent to Dalahoo County and Islamabad-e-Gharb County; to the south, it is neighboring Ilam Province; and to the east, it is flanked by Sahneh and Harsin counties. Additionally, Senqur and Kolyayi counties border it to the northeast, delineating its extensive geographical context within the region.

- 1- Presence of the Faculty of Pharmacy: Kermanshah University of Pharmacy has seven scientific departments, including:
 - A. Pharmacology, Toxicology, and Pharmaceutical Services
 - B. Pharmaceutics, Pharmaceutical Nanotechnology, and Drug Control
 - C. Medicinal Chemistry
 - D. Pharmacognosy and Pharmaceutical Biotechnology
 - E. Pharmaceutical Biomaterials
 - F. Medical Nanotechnology
 - G. Clinical PharmacyWith 37 faculty members, the faculty provides considerable academic and consulting support.
- 2- Relevant Research Centers and Support Capacity for Technology and Innovation Development: Research centers such as the Pharmaceutical Sciences Research Center and the Nanodrug Delivery Research Center, along with innovation centers, growth centers, and the Kermanshah Health Science and Technology Park, all have the mechanisms to support innovation and technology. They can facilitate and lower the cost of research and development, as well as access to ideas and technological products with commercial development potential.
- 3- Extensive Network of Active Companies in Pharmaceutical Distribution: Kermanshah city hosts the headquarters and central warehouses of several active pharmaceutical distribution companies, such as Daroupakhsh, Hejrat Distribution, Razi Distribution, etc., which facilitate access to widespread pharmaceutical distribution networks in the country.
- 4- Presence of Pharmaceutical Manufacturers: Bakhtar Biochemistry Company, as a producer of final pharmaceutical products, and Nikan Exir Company, as an active producer of pharmaceutical raw materials, operate in this county.
- 5- Active Chemical and Petrochemical Industry: Kermanshah Province, particularly Kermanshah County, has extensive capabilities in the chemical,

petrochemical, and polymer industries, making it a potential source for supplying raw materials.

- 6- Access to Skilled Labor: The presence of established pharmaceutical and food industries has led to the training of a significant number of skilled workers familiar with GMP principles, safety and hygiene standards, and the conditions of pharmaceutical and food production, quality control, and storage, making the challenge of securing skilled labor less significant.
- 7- Proximity to Diverse Climate and Medicinal Plants: Kermanshah Province benefits from diverse climates, including temperate, cold mountainous, hot and humid, and hot and dry, which provides a vast range of plants, especially recognized medicinal plants.
- 8- Access to Kurdish Medicine Heritage and Traditional and Kurdish Practitioners: Kermanshah is the birthplace of Kurdish medicine and is well-versed in the principles of traditional Iranian medicine. The presence of physicians and pioneers of traditional medicine can lay the foundation for research and development on medicinal plants, traditional herbal medicines, and the industrial production of effective pharmaceuticals.
- 9- Proximity to the Free Trade Zone: In Kermanshah province, the Qasr-e Shirin Free Trade-Industrial Zone and the Eslamabad-e Gharb Special Economic Zone can facilitate the process of importing goods or exporting manufactured products.
- 10- Access to Airport, Railway, and Road Transport System: In Kermanshah county, there is an international airport terminal, a railway terminal, and an extensive, nearby, accessible, and active road transport system.

2-3. Project Location:

According to the studies conducted in the first phase of the studies, there is potential for implementing the project in all cities of Kermanshah province. With further studies, considering important factors such as the supply of raw

materials, infrastructure facilities, access to communication routes, supply of human resources, environmental aspects, government exemptions, the position of other competitors, etc., Zagros Industrial Park is suitable for implementing the desired project. Zagros Industrial Park is the largest industrial park in the west of the country, located in Kermanshah province, with a latitude of 34.3185730 and a longitude of 47.2686424. The area of Zagros Industrial Park is 1100 hectares, of which 260 hectares are in the operational phase. This industrial park is less than 20 kilometers away from the provincial center, the airport and the Kermanshah railway station, and is located on the route of the Karbala International Highway, and for this reason it has a convenient geographical location. Zagros Industrial Town has a variety of uses and zoning, including electrical and electronic, service and workshop zones, cellulose products, chemical products, food, pharmaceutical and health products, metal products, non-metallic mineral products, and textile products.

2-4. Access to Infrastructure:

Considering that the plan location is within the Zagros Industrial Park, access to the required infrastructure is planned within the park.

No.	Required Infrastructure	Distance to Project Location	Source of Infrastructure
1	Water	-	Branch from Zagros Industrial Estate
2	Electricity	-	Branch from Zagros Industrial Estate
3	Gas	-	Branch from Zagros Industrial Estate
4	Telecommunications	-	Branch from Zagros Industrial Estate
5	Main Road	-	Kermanshah-Hamedan Road
6	Secondary Road	-	Bozogdar-e Olya Road
7	Airport	15 km	Kermanshah International Airport
8	Port	Approximately 500 km	Imam Khomeini Port, Khuzestan
9	Railway Station	18km	Kermanshah Railway

			Station
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3- Plan Technical Specifications:

3-1. Product:

The product being proposed is categorized within the manufacturing sector for chemical materials (code 24), particularly under the pharmaceutical subgroup (code 2423). This subgroup encompasses pharmaceutical products, active chemical compounds, and herbal medicinal products.

Solid Products: Pharmaceutical dosage forms encompass tablets, capsules, granules, and powders. These formulations typically demonstrate enhanced stability, which simplifies their storage and transport logistics. They are produced with precise dosing capabilities and can be engineered for either controlled-release or immediate-release profiles, tailored to meet targeted therapeutic requirements.

Semi-Solid Products: These encompass emulsions, suspensions, and pastes, designed primarily for topical administration, although some may be employed in systemic therapies in exceptional circumstances. These products can be classified as sterile or non-sterile, depending on their intended use and manufacturing processes.

3-2. Project Requirements:

(Product/Sample Image)



3-2-1. Required Space and Infrastructure:

This plan is designed to produce 440500 units annually . After obtaining the necessary licenses, construction will commence, and the facility will then begin its operations. With the annual revenue generated from the sale of solid and semi-solid pharmaceutical products, the plan is expected to cover its costs and generate a profit. According to the existing standards for pharmaceutical production, a facility for manufacturing solid and semi-solid medications with an annual capacity of 440500 units will require 10,000 square meters of land. Of this, 6,000 square meters will be covered space, 4,000 square meters will be uncovered space, and the remainder will be designated for the open area of the industrial site. The planned area for this plan is 10,000 square meters, with the surplus land allocated to green spaces and open areas.

- Key Required Spaces:

A. Production Area

Production Lines: Approximately 3,000 to 5,000 square meters are required for production lines, depending on the layout of equipment and the required workflow.

Cleanroom: This area must meet cleanliness standards (ISO 7 for semi-solids and ISO 5 for solids) with specific air quality control measures. Cleanrooms are controlled environments designed to minimize contamination and are essential in industries such as pharmaceuticals, biotechnology, and electronics. Air cleanliness is maintained through filtration and ventilation systems. Cleanrooms are classified based on ISO standards (e.g., ISO 1 to ISO 9) according to particle count and cleanliness requirements. Pharmaceutical cleanrooms used in drug manufacturing must meet ISO Class 5 or higher standards.

Ceiling Height: The ceiling height should be at least 3.75 meters to accommodate equipment and air circulation systems.

- Storage and Warehousing

Raw Material Storage: A dedicated space for storing active pharmaceutical ingredients (API) and other excipients is necessary.

Finished Product Storage: A space to store packaged products with required temperature control capabilities.

B. Quality Control Laboratories

Size: Sufficient space for the quality control laboratories must be provided to test raw materials and finished products, considering the specialized equipment needed for analysis.

Auxiliary Spaces

Office Space: An office area for administrative functions is required.

Cleanroom Locker Room: Separate spaces for personnel to change into cleanroom attire, typically around 50 square meters.

Staff Rest Area: Small rest rooms for staff, requiring dedicated space.

- Key Infrastructure Requirements:

A. HVAC Systems

These systems are essential to control temperature and humidity in production and storage areas. The systems must be designed to meet the specific needs of pharmaceutical production.

B. Electrical Systems

A reliable power supply with backup generators is essential to ensure continuous electrical energy. Electrical systems must guarantee the power supply for specialized equipment used in production and quality control.

C. Water and Waste Management

An essential infrastructure requirement is a clean water supply for production processes, along with wastewater management systems, all in compliance with environmental regulations.

D. Safety Infrastructure

Fire suppression systems must be designed according to the specific hazards associated with pharmaceutical materials. Security measures to protect sensitive areas, including access control and surveillance systems, must be implemented.

E. Logistics Infrastructure

Loading docks must be designed for the efficient handling of materials, with separate areas for incoming raw materials and outgoing finished products to prevent cross-contamination.

Additionally, the power supply and transformer with the required capacity have been allocated, with electricity sourced from the Zagros Industrial Park. Water for the facility will also be supplied by the Zagros Industrial Park. Plumbing throughout the site, including in warehouses and other production areas, will be performed by a qualified contractor.

No.	Description/Name of User Facilities	Details	Required Investment for the Plan		Total Cost (in Million IRR)
			Required Quantity/Area	Unit Price (in Million IRR)	
1	Land	Kermanshah – Zagros Industrial Town	10000	15	150000
2	Landscaping Operations	As per calculations	4000	2	8000
3	Construction	Construction of 10 production and warehouse halls (6-meter height with internal storage) Administrative and central management building Production space Laboratory Guardhouse Green space (10% of	6000	92	552000

		land area) Street paving, sidewalks, parking, and asphalt (20% of land area)			
Total			-	-	710000

3-2-2. Equipment and Machinery:

The pharmaceutical production lines are divided into various types based on the type of drug being produced, the manufacturing process, and the desired capacity.

1. Solid Dosage Production Line

Tablet Production Line: This production line is used for manufacturing various types of tablets, including oral tablets, compressed tablets, and chewable tablets. The tablet manufacturing process includes several stages, such as mixing raw materials, compression, coating, and packaging.

Capsule Production Line: This line is used for manufacturing various types of capsules, including gelatin capsules and herbal capsules. The capsule manufacturing process includes stages such as filling capsules with raw materials, drying, and packaging.

Powder and Granule Production Line: This line is used for producing sachets and packets containing powder or granules. The production process may include stages such as mixing, granulation, drying, and packaging.

2. Semi-Solid Dosage Production Line

Tube Production Line: In this line, various creams, ointments, pastes, or gels are filled into different types of tubes and packaged.

Jar Production Line: In this line, various creams, ointments, pastes, or gels are filled into jars of different sizes and packaged.

Below is a list of the most important machines and equipment needed for the production line:

1. Raw Material Handling Machinery

- Bulk Storage Silos: For storing powders and granules.
- Conveyors: For transporting raw materials to the mixing areas.

2. Mixing and Granulation Machinery

- High-Shear Mixers: For mixing powders and liquids to create homogeneous blends.
- Granulators: For converting powder into granules and ensuring uniformity.
- Fluidized Bed Dryers: For drying granulated materials while maintaining particle integrity.

3. Tablet or Capsule Manufacturing Machinery

- Tablet Press Machines: For compressing granules into tablets, capable of producing single-layer or multi-layer tablets.
- Coating Machines: For applying protective or functional coatings onto tablets.
- Capsule Filling Machines: For filling powders or granules into capsules.

4. Quality Control Equipment

Testing Equipment: Includes hardness testers, disintegration testers, and dissolution testers to ensure product quality.

Laboratory Equipment: For chemical analysis and stability testing of raw materials and finished products.

5. Packaging Machinery

- Blister Packaging Machines: For packaging individual tablets into blister packs.
- Bottle Filling Machines: For filling bottles with tablets or capsules.
- Semi-Solid Filling Machines: For filling tubes or jars with semi-solid products.

- Labeling Machines: For applying labels to packaged products with the required information.

6. Auxiliary Equipment

- Air Handling Units (AHUs): To maintain cleanroom conditions with air quality and temperature control.

- Water Purification Systems: For producing high-quality water used in production processes.

- Cleaning-In-Place (CIP) Systems: For the automatic cleaning of equipment to maintain hygiene standards.

7. Automation and Control Systems

- Supervisory Control and Data Acquisition (SCADA) Systems: For monitoring and controlling production processes.

- Programmable Logic Controllers (PLC): For automating machinery operations to improve efficiency.

8. Safety Equipment

- Personal Protective Equipment (PPE): Includes gloves, masks, and gowns to ensure personnel safety.

- Fire Suppression Systems: To reduce the risk of fires associated with flammable materials.

9. Other Equipment:

Oil Vacuum Pumps Vacuum Ovens Industrial Filter Devices Argon Gas Capsules Solvent Drying Machines Distillation Units Cleanroom Equipment and more.

No.	Device Title	Quantity	Unit Price (in Million IRR)	Total Costs (Million IRR)
1	Production Machinery and Equipment	1	567,500	567,500
2	Warehousing Machinery and Equipment	1	20,000	20,000

3	Laboratory Machinery and Equipment	1	5,000	5,000
	Total Production Line	3	592,500	592,500

3-2-3. Raw Materials and Intermediate Components:

Raw materials in the pharmaceutical industry are divided into two main categories:

1- Active Pharmaceutical Ingredients (APIs)

According to the World Health Organization (WHO), an active pharmaceutical ingredient (API) is defined as any substance used in the final pharmaceutical product whose primary purpose is to develop a therapeutic activity or to have a direct effect on the diagnosis, treatment, or prevention of a disease in a patient. For example, an API included in a painkiller is used for pain relief. A small amount of the API is sufficient to have an effect, which is why only a small portion of the active ingredient is present in the drug. The name and amount of the active ingredient are usually seen on the drug packaging.

2- Excipients

Excipients are substances that are used in pharmaceutical formulations alongside the active ingredient but do not have therapeutic or medicinal properties. These materials are used for other purposes, such as improving drug stability, providing buffering properties, or protecting the drug from microbial contamination, among others.

3. Master Carton

4. Small and Medium Packaging

5. Direct Layer

6. Shrinking Layer

7. Various Labels

8. Polystyrene Sheets

9. Aluminum Foil

10. Polyethylene Shrinking Film

11. Roll Adhesive

12. 60 cc Glass Bottles with Caps

No.	Raw Material Name	Annual Consumption After Completion (Tons)	Unit Cost (Million IRR)	Total Cost (Million IRR)
1	Various Active Pharmaceutical Ingredients	23000	500	11.500.000
2	Various Excipients (Inactive Ingredients)	10,000	5	50,000
3	Various Packaging Containers	1,000	4	4000
4	Various Blisters and Other Solid Packaging Containers	1,000	2	2000
5	Various Packaging Cartons	1000	2	2000
6	Various Quality Control Laboratory Consumables	1000	10	10000
7	Various Cleaning, Disinfecting, and Sterilizing Materials	5000	4	20000
8	Various Air Filters, Water Filters, etc.	1000	100	100000
9	Various Packaging Consumables	5000	1	5000
10	Various Special Clothing for Production or Laboratory	2000	2	4000
	Waste		1% of Total	
Total				11813970 million IRR

3 -2-4. Management and Human Resources:

No.	Job Title	Number	Work Area	Monthly Salary (Million IRR)	Total Monthly Salary (Million IRR)	Annual Salary (Million IRR)
1	CEO	1	Management	600	820	9840
2	Technical Manager	1	Production	500	683	8200
3	R&D Manager	1	Management	400	546	6560
4	Quality Control Manager	1	Production	400	546	6560
5	Commercial Manager	1	Sales	500	683	8200
6	Commercial Team	2	Sales	200	546	6560
7	Factory Manager	1	Management	500	683	8200
8	Section Supervisor	4	Production	250	1366	16400
9	Production Worker	4	Production	150	820	9840
10	Filling Machine Operator	3	Production	150	615	7380
11	Packaging Worker	8	Production	120	1312	15744
12	Labeling Worker	2	Production	120	328	3936
13	Printing Worker	2	Production	120	328	3936

No.	Job Title	Number	Work Area	Monthly Salary (Million IRR)	Total Monthly Salary (Million IRR)	Annual Salary (Million IRR)
14	In-Process Control Lab	2	Production	170	464	5576
15	Weighing Worker	2	Production	120	328	3936
16	Raw Material Warehouse Worker	2	Production	120	328	3936
17	Product Warehouse Worker	2	Production	120	328	3936
18	Technical Staff (Electrical & Mechanical)	1	Production	200	273	3280
19	Water Treatment Operator	1	Production	120	164	1968
20	R&D Team	3	Management	200	820	9840
21	Quality Assurance Team	3	Management	200	820	9840
22	Regulatory Team	1	Production	200	273	3280
23	Quality Control	3	Production	200	820	9840
24	Marketing and Sales Team	4	Sales	300	1640	19680
	Total	55		5960	15539	186468

4- Ownership and Legal License :

4-1. Land Ownership:

The legislation governing the transfer of ownership and management of industrial parks defines an industrial park as a designated area delineated by specific boundaries and dimensions. These parks are established or are to be established in accordance with the legal framework pertaining to the Industrial Parks Company of Iran and its subsequent amendments. The industrial zones as regulated by this law comprise a structured complex that includes industrial, research, and technological units, along with ancillary support services. These facilities are equipped with the essential infrastructure and requisite services to facilitate the operational needs of the aforementioned units. Ownership structures within industrial parks are bifurcated into privately owned

components and collectively owned areas. The latter, designated as common areas, serve all unit owners and are not exclusive to any specific entity. Areas not earmarked for individual use or explicitly identified in the ownership documentation as exclusive property are classified as common spaces. Crucially, the rights associated with each owner's individual parcel of land are intricately linked to their entitlements in the common areas. Consequently, any transfer of ownership pertaining to exclusive property inherently entails the transfer of associated rights and responsibilities concerning the shared spaces within the park.

4-2- Intellectual Property and Incentives:

- Contracting parties that pay the full amount of the agreement for the use of the workshop, industrial units, and other facilities in a lump sum at the time of signing the contract will qualify for discounts and exemptions based on the total contract amount. The specific discount percentage will be determined by the Board of Directors of the Industrial Parks Company.
- The payment framework governing usufruct rights for land and facilities stipulates that an initial cash payment of only 20 to 40 percent of the total usufruct fee is required. The outstanding balance can be settled via interest-free installments, which are free from any ancillary charges.
- The payment structure for usufruct rights related to land and facilities mandates an initial cash outlay ranging from 20 to 40 percent of the overall usufruct fee. The remaining balance is permissible to be paid in interest-free installments, exempt from any ancillary costs.
- The option to pledge usufruct contracts related to land and facilities with banks and financial institutions is now feasible, in accordance with the resolution from the esteemed Council of Ministers and in compliance with existing legal frameworks, while being exempt from municipal legislation.

- Issuance of construction license and completion certificates in the shortest possible time and free of charge.
- Granting a special incentive of up to 10% on usufruct rights for land to war veterans, elites, knowledge-based companies, inventors, foreign investors, and export consortiums.
- Granting a special incentive for early usufruct (within one year or less for lands with an area of 2,000 square meters or less) up to a maximum of 10%.
- Note 1: For every additional 500 square meters of land, one month is added to the one-year utilization deadline (the maximum deadline for areas over 11,000 square meters is 30 months from the date of the contract).
- Note 2: Early utilization incentives apply to industrial land allocation contracts that have not benefited from incentives for less developed regions and have not subdivided or consolidated the allocated land, and whose installments have been paid on time.
- In the case of having a technical and economic feasibility report for larger plots, an incentive of 5% will be granted, and for problematic plots (uneven and low-quality), the incentive can be up to 10%.

4-3. Legal License:

The Ministry of Health, Treatment, and Medical Education, as well as the Food and Drug Administration, are the authorities responsible for issuing the establishment and operating licenses for pharmaceutical factories. However, the applicant must obtain the necessary license, otherwise, they will face challenges at any stage of the factory's setup.

General Steps for Obtaining Licenses:

1. **Obtaining the Establishment License:** The initial step in setting up a pharmaceutical factory is to secure the establishment license from the Food and Drug Administration. Applicants are required to submit necessary documentation and supporting evidence, which includes a feasibility study, technical plans, and the educational and professional qualifications of the managerial staff.

2. **Obtaining the Operating License:** Once the establishment license is granted and the construction and equipping of the factory are completed, the applicant can seek the operating license from the Food and Drug Administration. The issuance of this license is contingent upon an inspection by the organization's experts and the factory's adherence to GMP (Good Manufacturing Practice) standards.

3. **Obtaining Other Required Licenses:** In addition to the establishment and operating licenses, pharmaceutical factories must acquire other essential licenses, including: an activity permit from the Ministry of Cooperatives, Labor, and Social Welfare; a health permit from the Health Center; and a wastewater disposal permit from the Department of Environmental Protection.

No.	License / Certificate Name	License / Certificate Description	Status
1	Company Registration Approval	Company registration with the registration organization	Mandatory
2	Establishment License	Obtain a license from the Ministry of Industry, Mining, and Trade and the Ministry of Health for establishing a pharmaceutical production facility	Mandatory
3	Pharmaceutical Product Manufacturing License	Obtain a manufacturing license for each pharmaceutical product from the Food and Drug Organization	Mandatory

4	Import License	Obtain an import license for raw materials or final products, as needed for the production line from the Ministry of Industry, Mining, and Trade	Mandatory
5	Marketing License	Obtain marketing approval for specific pharmaceutical products	Mandatory
6	GMP Certificate	Obtain a certificate ensuring compliance with quality standards in manufacturing processes from the Food and Drug Organization	Mandatory
7	Environmental Impact Assessment	Assessment required by the Environmental Protection Organization to examine the environmental impacts of the production line	Mandatory/ Optional
8	Technical Responsible License	Appointment of a qualified pharmacist responsible for ensuring compliance with regulations and product safety by the Food and Drug Organization	Mandatory
9	Quality Control Laboratory Standard Approval	License to operate a laboratory for conducting quality control tests on pharmaceutical materials	Mandatory
10	ISO Certificates	Various international standard certificates like ISO5 for clean rooms, etc.	Mandatory/ Optional

5- Market Analysis and Competition:

Iran's pharmaceutical market faces limitations in its global reach, largely due to economic constraints and imposed sanctions. Nonetheless, domestic policies have enabled significant strides towards self-sufficiency, with recent figures

from the Food and Drug Administration indicating that approximately 97% of pharmaceuticals used in the country are produced domestically. The Iranian government actively supports this sector, recognizing its critical role in the national healthcare ecosystem.

The pharmaceutical industry is currently experiencing substantial transformation driven by advancements in technology, demographic shifts, and changing healthcare demands. Estimations for 2024 forecast a global pharmaceutical sales growth of 5.1%, with a manufacturing expansion rate of 4.6%, largely fueled by the burgeoning demand in the Asia-Pacific region.

As of 2021, the global pharmaceutical market was valued at around \$1.42 trillion, expected to escalate to approximately \$1.57 trillion by 2025, yielding a compound annual growth rate (CAGR) of about 5.1%. This growth trajectory is influenced by rising healthcare expenditures, an aging populace, and innovations in biologics and personalized medicine. The Asia-Pacific region is poised to lead this expansion due to increased disposable income and greater healthcare demands, while North America will continue to represent a significant segment owing to its advanced healthcare infrastructure.

In terms of the Iranian pharmaceutical landscape, the market was valued at approximately \$3.7 billion in 2018, reaching about \$4.3 billion in 2021. Iran operates 114 manufacturing facilities for human pharmaceuticals, 43 for raw material extraction and production, and hosts 80 registered pharmaceutical importers, alongside 60 national distribution firms, 180 provincial distributors, and over 15,000 pharmacies. The annual import value of pharmaceuticals (including both finished products and raw materials) ranges from \$2 to \$2.5 billion .

Recently, the establishment of local production capabilities has resulted in a reduction of the share of finished product imports, while reliance on raw material imports has increased. Additionally, the aging demographic within Iran is anticipated to escalate the demand for pharmaceuticals in the coming years. Given that pharmaceutical expenditures constitute approximately 30% of total healthcare costs and nearly 50% of outpatient care costs, the pharmaceutical sector is integral to the Iranian healthcare system.

Key Trends Influencing the Global and Iranian Pharmaceutical Markets:

1- Growth of Biopharmaceuticals:

The industry is witnessing a marked shift towards biologic drugs, characterized by their targeted therapeutic actions. This trend is further propelled by the increasing adoption of personalized medicine, leveraging genetic insights to optimize treatment efficacy.

2- Digital Transformation:

The pharmaceutical sector is undergoing a significant revolution through the integration of digital technologies, particularly artificial intelligence (AI) and advanced big data analytics. Forecasts indicate that the global AI market within the pharmaceutical industry will expand from \$908 million in 2022 to over \$11.8 billion by 2032, representing a compound annual growth rate (CAGR) of 29.3%.

3- Increasing Demand for Specialty Drugs:

The market for specialty pharmaceuticals, particularly those targeting chronic illnesses and obesity management, is anticipated to surpass \$75 billion by 2030. This surge in demand is primarily driven by an aging demographic and escalating healthcare expenses in emerging economies.

4- Outsourcing Trends:

To enhance operational efficiencies and mitigate costs, pharmaceutical companies are increasingly outsourcing drug development and manufacturing processes. The role of contract manufacturing organizations (CMOs) and contract research organizations (CROs) is becoming increasingly central to the industry landscape.

5- Regulatory Changes:

In key markets, particularly the United States and the European Union, stringent regulatory environments impose constraints on pricing strategies and market accessibility. Consequently, pharmaceutical companies are compelled to adapt their business models to navigate these complexities.

6- Economic Pressures:

Current economic factors such as high inflation and interest rates are negatively impacting consumer purchasing power, leading to decreased demand for over-the-counter medications. Additionally, governmental initiatives aimed at controlling healthcare expenditures may have adverse effects on pharmaceutical revenue streams.

7- Supply Chain Disruptions:

Geopolitical tensions and ongoing supply chain challenges present significant risks for pharmaceutical manufacturers, highlighting the necessity for adaptable operational frameworks.

Overall, the pharmaceutical industry is positioned for sustained growth driven by transformative trends including digital innovation, advancements in biopharmaceuticals, and rising demand for specialty drugs. Nevertheless, companies must address formidable regulatory hurdles and economic pressures while leveraging technology to optimize operational efficiency and effectively meet global healthcare demands.

In the context of Iran, the pharmaceutical manufacturing sector has witnessed considerable development in recent decades, largely as a response to the imperative of achieving self-sufficiency in drug production amidst the sanctions imposed on the country. The Iranian pharmaceutical landscape consists of both public and private enterprises, with an emphasis on the production of generic medications. Below is a table listing these organizations.

Company Name	Country	Number of Products
AryaShik	Iran	284
Abidi Pharmaceutical Co.	Iran	256
Ani Darman Pharmaceutical Co.	Iran	56
Karen Vital Nutritional Supplements	Iran	129
Aburihan Pharmaceutical Co.	Iran	279
Raha Pharmaceutical Co.	Iran	155
Sinagen Pharmaceutical Co.	Iran	47
Danesh Pouyan Arya Darou	Iran	20
Exir Gostar Espadana	Iran	11
Nano Hayat Darou Pharmaceutical Co.	Iran	20
Razak Pharmaceutical Co.	Iran	149
Ectoworko Pharmaceutical Co.	Iran	201
Iran Darou Pharmaceutical Co.	Iran	151
Ramofarmin Pharmaceutical Co.	Iran	116

Zahrawee Pharmaceutical Co.	Iran	162
Raya Pouyan Novian	Iran	11
Rasta Iman Darou	Iran	11
Darou Pakhsh Factory	Iran	390
Amin Pharmaceutical Company	Iran	309
Exir Pharmaceutical Company	Iran	290
Tehran Darou Pharmaceutical	Iran	263
Alborz Darou Pharmaceutical	Iran	242
Hakim Pharmaceutical Company	Iran	213
Sobhan Darou Pharmaceutical	Iran	202
Dana Pharmaceutical Company	Iran	180
Kimidarou Pharmaceutical Company	Iran	173
Jaber ibn Hayyan Pharmaceutical	Iran	171
Bakhtar Biochemistry Pharmaceutical	Iran	162
Kish Medifarm Pharmaceutical	Iran	149
Tolid Darou Pharmaceutical	Iran	147
Osveh Pharmaceutical Company	Iran	146
Roos Darou Pharmaceutical	Iran	146
Pour Sina Pharmaceutical	Iran	136
Shahr Darou Pharmaceutical	Iran	123
Sina Darou Pharmaceutical	Iran	122
Caspian Tamin Pharmaceutical	Iran	121

Gol Darou Pharmaceutical	Iran	119
Soha Pharmaceutical Company	Iran	109
Barij Esans Pharmaceutical	Iran	109
Luqman Pharmaceutical Company	Iran	108
Farabi Pharmaceutical Company	Iran	97
Dorsa Darou Pharmaceutical	Iran	72
Khwarizmi Pharmaceutical	Iran	174
Al-Hawi Pharmaceutical	Iran	160
Pars Pharma	Iran	125
Nanotechnology Drug Makers Alvand	Iran	123
Sami Saz Pharmaceutical	Iran	122
Iran Hormone Pharmaceutical	Iran	114
Tadbir Kala Jam Pharmaceutical	Iran	105
Iran Najoo Pharmaceutical	Iran	104
Ronak Pharmaceutical	Iran	94
Afa Chemie Pharmaceutical	Iran	94
Behazan Pharmaceutical	Iran	92
Tasnim Pharmaceutical	Iran	91
Shafa Pharmaceutical	Iran	90
Iran Darook Pharmaceutical	Iran	89
Madava Pharmaceutical	Iran	87
Simorgh Daru Attar	Iran	77
Subhan Oncology Pharmaceutical	Iran	72
Arya Pharmaceutical	Iran	71

Kowsar Pharmaceutical	Iran	71
Farmashimi Pharmaceutical	Iran	68
Mehr Darou Pharmaceutical	Iran	67
Emad Treatment Pars Pharmaceutical	Iran	67
Aveh Sina Pharmaceutical	Iran	67
Shari Pharmaceutical Industry	Iran	65
Sajad East Pharmaceutical	Iran	65
Samen Pharmaceutical	Iran	64
Kushan Farmed Pharmaceutical	Iran	64
Mahan Pharmaceutical	Iran	62
Shaheed Ghazi Pharmaceutical	Iran	60
Mino Pharmaceutical	Iran	56
Mofid Nikan Medical Pharmaceutical	Iran	51
Dineh Iran Pharmaceutical (Industrial Complex)	Iran	50
Faran Shimi Toyserkan Pharmaceutical	Iran	49
Aktor Khavar Miyaneh	Iran	49
Zist Arvand Farmed	Iran	48
Thnamad Pharmaceutical	Iran	47
Vana Darou Gostar	Iran	46
Omid Parsina Damavand	Iran	44
Behsa Pharmaceutical	Iran	43
Darou Salamat Farmed	Iran	42
Darou Darman Pars Pharmaceutical	Iran	40
Zardband	Iran	40

Pharmaceutical		
Iran Injectable Pharmaceutical Products	Iran	40
Reyhaneh Isfahan Pharmaceutical	Iran	39
Poyesh Darou Pharmaceutical	Iran	22
Se Daal Nano	Iran	22
Ariojen Pharmed	Iran	22
Ghaem Darou Pharmaceutical Company	Iran	21
Abian Pharmed	Iran	21
Asa Darou Toos	Iran	21
Pasteur Institute - Factory	Iran	20
Pak Darou Pharmaceutical	Iran	20
Livar	Iran	20
Niak Pharmaceutical	Iran	20
Razan Pharmed Iranian	Iran	20
Nexus	Iran	20
Darman Yab Darou	Iran	19
Hakim Momen Tirizi Pharmaceutical	Iran	19
Pars Gita Darou	Iran	19
Kimiagar Toos	Iran	19
Beheshtan Tolid Pharmaceutical	Iran	18
Kimiya Ara Horm Pharmaceutical	Iran	18
Mad Pharmaceutical	Iran	18
Shahab Darman	Iran	18
Behta Darou Afrinesh	Iran	18
Alborz Zagros	Iran	18
Baran Chemical and Pharmaceutical	Iran	18

Gilaranco Pharmaceutical	Iran	17
Kobel Darou	Iran	17
Sabz Darou Espadana Pharmaceutical	Iran	17
Vitabiotics Pharmed	Iran	17
Daru Afshan Shaygan	Iran	17
Adib Exir	Iran	17
Oxin Darou Vesht	Iran	17
Omid Darou Salamat	Iran	16
Ganjneh Essences Nature Pharmaceutical	Iran	16
Salamat Gostar Artiman	Iran	16
Rostajen Darou Pharmaceutical	Iran	16
Kimiya Kalaye Razi	Iran	16
Nikan Pharmed Mehr	Iran	16
Ofoq Tolid Darou Pars	Iran	16
Rojin Pharmaceutical	Iran	16
Genian Pharmed Pharmaceutical	Iran	15
Milad Keshteh and Industry Complex Khorasan	Iran	15
Milk Powder Mashhad	Iran	15
Gostarsh Milad Pharmed	Iran	15
Viva Group (Goldarou Brand)	Iran	15
Arnika Salamat	Iran	15
Saponin Pharmaceutical Iran	Iran	14
International Sepid Teb Nia	Iran	14
Sam Arin Exir	Iran	14
Nik Saman Daru	Iran	14
Pharmaceutical Company Hanan Boroujen	Iran	13

Zeyah Sabz Zendegi	Iran	13
Tak Gen Zist	Iran	13
Rahman Gostaran	Iran	13
Arya Farmed Pishgaman Salamat	Iran	13
Pharmaceutical Company Gihai Vosha Daru Pars (Knowledge-Based)	Iran	13
Aramis Farmed	Iran	12
Daru Sanat Viana	Iran	12
Pak Salamat Tamin	Iran	12
Pharmaceutical Company Keyhan Daru	Iran	11
Pharmaceutical Company Notek Far	Iran	11
Exon Farmed	Iran	11
Fara Teb	Iran	11
Pad Jandi Shapur	Iran	11
Parsis Raya Daru	Iran	11
Daru Darman Parmida	Iran	11
Pharmaceutical Company Delta Daru	Iran	10
Pharmaceutical Company Vista Tejarat Pars	Iran	10
Ehran Tejarat	Iran	10
Pharmaceutical Company Vitan Farmed	Iran	10
Arman Behbood Sina	Iran	10
Pegah Tehran	Iran	10
Daneshgar Zoleng Rosapina	Iran	10
Raya Pharmaceutical Innovations	Iran	10
Kesht o Faravari Mehrsa Darou Yasin (Medin Pharma)	Iran	10

Donyā Darouye Sepehr	Iran	10
Matin Asa Pharmed	Iran	10
Dayān Teb Exir	Iran	10
Pounik Darou	Iran	10
Salamat Sazan Pars Bouali	Iran	10
Kimiā Zist Parsian	Iran	10
Exir Gol Sorkh	Iran	9
Hama Pharmed	Iran	9
Hoghar Darou Danesh	Iran	9
Tose'e Bazargani Darouyi Subhan	Iran	9
Hakim Tejarat Sahand	Iran	9
Farabiotic	Iran	9
Nafas Zist Pharmed	Iran	9
Hegmatān Darouyi Gharb	Iran	9
Sanābel Darou	Iran	9
Nojan Pharmed Caspian	Iran	9
Sam Rād Darman	Iran	9
Darousazi Darou Darman Selfchegan	Iran	8
Darousazi Fakher	Iran	8
Zist Darou Darman Pars	Iran	8
Darousazi Fereshtah Joyan	Iran	8
Pars Behrouzan Jam	Iran	8
Viralyaan Group	Iran	8
Darou Tadbir Pars	Iran	8
Yas Darou	Iran	8
Arya Basirat Food Supplement Industry Cooperative	Iran	8
Khorramshahr Darou	Iran	8

Behin Tamin Rouzamed	Iran	8
Ost Darou Behbod	Iran	8
Ideh Darou Teb	Iran	8
Daroui Omid Behbod	Iran	8
Rafsanjan Darou	Iran	8
Jahan Farmed Aria	Iran	8
Espad Farmed	Iran	8
Sana Farmed	Iran	8
Darousazi Neda	Iran	7
Nik Akhter Aria	Iran	7
Arianik	Iran	7
Darousazi Tosan Darou	Iran	7
Exir Nano Sina	Iran	7
Golchai	Iran	7
Ganjineh Salamat Pasargad	Iran	7
Neshat Darouy Saweh	Iran	7
Truevital	Iran	7
Noavari Zisti Goya	Iran	7
Masoon Darou	Iran	7
Pars Nami Darou	Iran	7
Bonyan Kasri Seresht Salamat	Iran	7
Kian Salamat Paydar	Iran	7
Exir Teb Parniyan	Iran	7
Alasht Pharmed	Iran	7
Navak Darou	Iran	7
Ashbal Shimi	Iran	7
Research Institute of Medicinal Plants, Jihad University	Iran	7
Ramona Darou	Iran	7

Aida Shimi Toos Pharmaceutical Company	Iran	6
Baharpaya	Iran	6
Kharman Pharmaceutical Company	Iran	6
Farnoush Darou Teb	Iran	6
Herbi Darou	Iran	6
Salamat Permon Amin	Iran	6
Imagen	Iran	6
Darou Gostar Maisa	Iran	6
Novia Vision Aryan	Iran	6
Ganjineh Salamat Tara	Iran	6
Pehgah Baby Milk	Iran	6
Dayajen Pharmed	Iran	6
Arya Tina Jen	Iran	6
Danesh Gostaran Borna Salamat	Iran	6
Master Food Industries	Iran	6
Yas Pharmed Iranians	Iran	6
Abadis Darou Ajand	Iran	6
Abian Darou	Iran	6
Kimia Salamat Iranians	Iran	5
Sina Pishgam Darou Novin	Iran	5
Arian Supplementary Drugs	Iran	5
Darou Sazi Mim Darou	Iran	5
Tabiat Zende	Iran	5
Tose'e Darou Sazi Danesh	Iran	5
Techra Pharmed	Iran	5
Orum Teb Darou	Iran	5
Helia Pharmed	Iran	5

Gooya Pharmed Aria	Iran	5
Saj Pad Darou	Iran	5
Trita Darouye Hazarah S [^] om	Iran	5
Shimi Anasor Maryam	Iran	5
Trita Darouye Arta	Iran	5
Najvan Giah	Iran	5
Pars Teb Aras	Iran	5
Darou Darman Persian Pad	Iran	5
Avaye Lian Darouye Pars	Iran	5
Darou Sazi Anousha	Iran	5
Darou Sazi Reyhan Naqsh Jahan	Iran	5
Darou Sazi Part Kimia Gorgan	Iran	4
Darou Sazi Pezhhan Shimi Yazd	Iran	4
Darou Sazi Di Darou Salamat	Iran	4
Poratab	Iran	4
Aryan Sanaa	Iran	4
Vita Aria	Iran	4
Darou Sazi Roz Pharmed	Iran	4
Darou Sazi Shiraz Serum	Iran	4
Clin Asia Pars	Iran	4
Ibn Masouyeh	Iran	4
Erfan Teb Pars	Iran	4
Darou Pizhuhan Pasargad	Iran	4
Yas Kavir Meybod	Iran	4
Taraneh Haye Shafabakhsh Tabiat	Iran	4

Teb Giah Amir	Iran	4
Nona Darou Pars	Iran	4
Zarfe Andishan Navid Salamat	Iran	4
Darou Darman Arya Sepahan	Iran	4
Samanik Salamat Gostar	Iran	4
Reza Darou	Iran	4
Laboratory Dr. Kamkar	Iran	4
Faran Pharmed	Iran	4
Pharmed Alna Mehr Parsian	Iran	4
Aba Darou Teb	Iran	4
Darou Sazi Dimond	Iran	4
Darou Sazi Tose'e Alfa	Iran	3
Ofoq Darou Pars	Iran	3
Daryan Tejarat	Iran	3
Darou Sazi Bahar Sabz Talaie	Iran	3
Darou Sazi Tehran Nil	Iran	3
Darou Sazi Barash Tabiat Yaran	Iran	3
Company Industries Food Ilya Pars	Iran	3
Darou Sazi Marham Sazan Sina	Iran	3
Shafa Darou Aria	Iran	3
Soha Jisa	Iran	3
Food Industry Darazhe	Iran	3
Tose'e Tejarat Persian Mehr	Iran	3
Mahban Darou	Iran	3
Fanavaran Roujan Mohegh Darou	Iran	3
Jan Vishar	Iran	3

Noshdaru Tosan Salamat	Iran	3
Tose'e Teb Adriyan Salamat	Iran	3
Mashavareen Teb Ibn Sina	Iran	3
Nika	Iran	3
Ailar Teb Yas	Iran	3
Nik Sina Exir	Iran	3
Pars Pharmed Aria	Iran	3
Tamin Pharmed Tehran	Iran	3
Aria Pars Honam Arash	Iran	3
Barsam Pharmed Alborz	Iran	3
Biosan Pharmed	Iran	3
Omid Teb Koosha	Iran	3
Kimia Faravari Bu-Ali	Iran	3
Tavan Exir Pharmed	Iran	3
Saman Daruy Hashtam	Iran	3
Taskin Gostar Pharmed	Iran	3
Ava Daru Caspian	Iran	3
Takin Pars Pharmed	Iran	3
Parsineh Dian Teb	Iran	3
Atara Pharmed	Iran	2
Asia Shimi Teb	Iran	2
Idea Gostar Darman	Iran	2
Bazargani Pooyesh Daru	Iran	2
Emad Pharmed	Iran	2
Shahid Mithami Research & Development Center	Iran	2
Farnak Gostar	Iran	2
Arvin Arman Gostar	Iran	2
Exir Med Pars	Iran	2

Beheshtan Behesht	Iran	2
Daru Darman Sepehr	Iran	2
Zist Daru Darman Pars	Iran	2
Daru Pooyeshan Lotus	Iran	2
Arah Daru Gostar	Iran	2
Daru Barg Shargh	Iran	2
Faros Pharmed	Iran	2
Samar Teb Darman	Iran	2
Soubatan Pharmed	Iran	2
Takdasht	Iran	2
Pazhouheshkadeh Giyahan Daroyi	Iran	2
Idea Araie Pishgam	Iran	2
Shafa Gostar Ayric	Iran	2
Isfahan Chocolate	Iran	2
Nuriya Darman Pasargad	Iran	2
Health Parsian	Iran	2
Pars Isotope	Iran	2
Tak Zima Daru Alborz	Iran	2
Nitka	Iran	2
Ki Daru Technology Health	Iran	2
Daru Darman Arjan	Iran	2
Lirok Daru	Iran	2
Kar Daru Farayand	Iran	2
Shafa Farmed Industries Group	Iran	2
Novin Teb Nobakht	Iran	2
Lafarrerr	Iran	2
Behdasht Farmed Lotus	Iran	2
Atara Zist Aray	Iran	2

Mahan Daru Reham Pharmaceutical Company	Iran	2
Nik Paya Karan Farmed	Iran	2
Pezhand Niko Daru	Iran	2
Nosha Farmed Radin Parsian	Iran	2
Zarrin Teb Mashregh Zamin	Iran	2
Nahal Sabz Salamate	Iran	2
Sabz Pouyan Mehr Daru Boroujan	Iran	2
Arman Zist Farmed	Iran	2
Mehr o Mah	Iran	2
Saman Farmed Pouya	Iran	2
Se Dal Persia	Iran	2
Rabo Farmed Aria	Iran	2
Teb Shafa Subhan	Iran	2
Amitis Nik Daru	Iran	2
Milad Daru Noor	Iran	2
Zagros Behdasht Darman Daru Afrand	Iran	2
Behnavar Pharmaceutical Company	Iran	1
Pars Sina Alborz Pharmaceutical Company	Iran	1
Darlan Daru Pharmaceutical Company	Iran	1
Salmi Daru Pharmaceutical Company	Iran	1
Kimiya Afreenan Alborz Pharmaceutical Company	Iran	1
Gas Behooshi Shomal Pharmaceutical Company	Iran	1
Khosrow Medisa Teb	Iran	1
Aria Tak Khavar	Iran	1
Salamat Sazan Parsa	Iran	1

Asal Daru Kish	Iran	1
Arden (Pardes Hayan Laboratory)	Iran	1
Darman Gaz	Iran	1
Exir Danesh Asia Pharmaceutical Company	Iran	1
Arasteh Gostar Pasargad Pharmaceutical Company	Iran	1
Imagen Pharmaceutical Company	Iran	1
Abadis Daru Pergas Pharmaceutical Company	Iran	1
Adonis Kish	Iran	1
Ailar Teb Azar Pharmaceutical Company	Iran	1
Dana Kasian Lorestan	Iran	1
Qatra Hayat	Iran	1
Paydar Farda	Iran	1
Soren Tak Toos	Iran	1
Arshia Mokamel Aria	Iran	1
Tolid Mavad Avvila Darupakh - Tamad	Iran	1
Shiraz Daru Hafez	Iran	1
Shahed Ara Caspian	Iran	1
Nos Daru Alborz	Iran	1
Daroshafa Tabi'i Padide	Iran	1
Imen Teb Daru	Iran	1
Almajen Daru	Iran	1
Mim Daru	Iran	1
Persian Pars Pharmaceutical Company	Iran	1
Nosh Daru Darya	Iran	1
Behesan Fartak Daru	Iran	1
Alborz Farmed	Iran	1

Arvin Zist Daru	Iran	1
Barij Essans	Iran	1
Daru Pakhsh	Iran	1
Aref Daru Qaem	Iran	1
Karan	Iran	1
Vistagen Pars	Iran	1
Atara Daru Sadr Azma	Iran	1
Dr. Rajabi Pharmaceutical	Iran	1
Saman Daru Salamati	Iran	1
Nano Alvand Arad	Iran	1
Hero Daru Salamati Pars	Iran	1
Novian Pezhouhan Zist Daru	Iran	1
Be Dena Baran	Iran	1
MAM Pharmaceutical	Iran	1
Mazdesina Sam Nosh Daru	Iran	1
Aria Shik	Iran	1
Sea Gol	Iran	1
Dermalift	Iran	1
Face Dox	Iran	1
Dr. Zhila	Iran	1
Hydro Derm	Iran	1
Midoq Zist Daru	Iran	1
Aras Pharmaceutical (Aram Pishdad Aras Azma)	Iran	1
Exir Zibayi Lian	Iran	1
Pharmaceutical Products No Tarkeeb	Iran	1
Padideh Tarabar	Iran	1
Taha Participatory Industries Investment	Iran	1

Kimiya Daru Sepehr	Iran	1
Danesh Bonyan Fazl Daru	Iran	1
Kimiya Garan Elm o Sanat Royan	Iran	1
Niavad Farmed Salamati	Iran	1
Mahan Daru Darman	Iran	1
Beyan Teb Arta	Iran	1
Zanbooristan Salamati Afarin	Iran	1
Puyesh Darman Rata	Iran	1
Shafi Daru Aria	Iran	1
Bonyan Teb Akam	Iran	1
Soroush Mana Farmed	Iran	1
Ara Teb Farmed	Iran	1
Raman Shimi Fanavar	Iran	1
Arasel Zist Daru	Iran	1
Percis Gen Par	Iran	1
Zist Fanavari Kowsar	Iran	1
Kitotech (Keyfiyat Tolid Takapo)	Iran	1
Vira Rahesh Farmed	Iran	1
Mahdiya Daru Atlas	Iran	1
Tahqiq va Tose'e Daya Daru	Iran	1

5-1. Target Market Introduction:

The pharmaceutical industry remains one of the most dynamic and lucrative sectors in the global market, characterized by robust profit margins. Numerous companies within this space capitalize on the production of patented products, resulting in substantial sales volumes both domestically and abroad. This sector encompasses a diverse array of entities, including pharmaceutical conglomerates, manufacturers, and distribution networks, enhancing its overall

appeal and complexity. In the context of Iran, the nation ranks among the top 20 countries worldwide in pharmaceutical consumption and holds the third position in Asia, trailing only behind China and Japan. The accompanying table outlines key insights into the target market for various pharmaceutical product categories, providing an in-depth perspective on industry dynamics and consumer trends.

Drug Type	Target Market
Tablets	Patients who need medication for various diseases, including heart patients, diabetic patients, digestive patients, nervous system and depression patients, and cancer patients.
Powder	Patients who need to use medication in powder form, such as those with digestive, respiratory, and other related diseases.
Syrup	Patients who need to consume medication in syrup form, such as those with digestive, respiratory diseases, and especially children and infants.
Capsules	Patients who need medication in capsule form, such as heart patients, diabetic patients, digestive patients, nervous system and depression patients, and cancer patients.
Injection and Vials	Patients who need medication in the form of injections and vials, such as those treated in hospitals and healthcare centers and require intravenous drugs.
Ointment and Cream	Patients who need topical medication for treating skin diseases, inflammations, or infections.

Drops and Shampoo	Patients who need medication in the form of drops and shampoo, such as those with eye, ear, vision, and hair-related diseases.
Suppository	Patients who need medication in suppository form, such as those with diseases of the intestines, bladder, and reproductive system.
Suspension	Patients who need medication in suspension form, such as those with respiratory, digestive, infectious diseases, and others.

In Iran, the segmentation of the market for solid and semi-solid pharmaceutical products can be analyzed from various dimensions, including demographic, geographic, psychological, and behavioral factors.

1- Demographic Segmentation

- Age: Different age groups have varying pharmaceutical care needs. For example, pediatric formulations, which primarily consist of liquid forms, are designed for children, whereas formulations for adults are mostly solid or semi-solid forms that may be formulated for chronic diseases.
- Gender: Some medications may be specifically targeted at men or women, such as hormonal therapies or fertility health products.
- Income Level: Consumers with higher incomes may prefer brand-name medications or those with advanced drug delivery systems and technology, whereas lower-income groups might opt for generic or essential medications.

2- Geographic Segmentation

- Urban vs. Rural: Urban areas generally have better access to healthcare facilities and a higher demand for advanced pharmaceutical products. In

contrast, rural areas, due to limited access, may focus more on essential medications.

- **Regional Differences:** Different provinces in Iran may exhibit varying consumption patterns based on local health issues and economic conditions. For instance, regions with higher rates of specific diseases may see increased demand for specialized medications.

3- Psychological Segmentation

- **Lifestyle:** Consumers with active lifestyles may prefer over-the-counter (OTC) pain relievers or dietary supplements, whereas those with chronic health issues may require long-term prescription medications.

- **Health Awareness:** The growing trend toward preventative healthcare can influence the demand for vitamins and dietary supplements.

4- Behavioral Segmentation

- **Usage Rate:** This aspect of segmentation includes heavy consumers (patients with chronic conditions requiring regular medication) versus light consumers (those who take medication occasionally for minor ailments).

- **Brand Loyalty:** Some consumers may show strong loyalty to specific brands due to perceived quality or effectiveness, which influences their purchasing decisions.

Key Considerations

- Antibiotics account for nearly 25% of total drug consumption in Iran, highlighting a significant portion of the market.

- The market is characterized by a competitive landscape, with the top ten companies holding about 50% of the market share.

- Biologic drugs are expected to experience the highest growth rates in the coming years.

6- Overview of Risk Management in the Production of Solid and Semi-Solid Drugs

Risk is defined as the product of the likelihood of an event occurring and its consequences over a specified period. Every activity within the execution process carries the possibility of hazards that may prevent the fulfillment of expected outcomes or part of them. Below, some of the potential risks associated with the solid and semi-solid pharmaceutical production project are examined, along with proposed mitigation strategies.

In summary, the risk management strategy for this project involves the following approaches:

- **Retention** of minor, scattered risks with very low probabilities or those that are non-transferable.
- **Avoidance** strategies for certain risks.
- **Reduction** or **elimination** of specific risks.
- **Transfer** of some risks to third parties.
- **Business Idea Risk:**

Due to the nature of the solid and semi-solid pharmaceutical production project, there is a significant risk associated with the exposure of the business idea.

- **Financial Risk:**

Financial risk is one of the most prominent risks facing the project. According to the financial analysis, the project must achieve sales of **4,889,302,407,614.35 Rials** to reach the break-even point, which represents **37.42%** of total sales at nominal capacity. This indicator suggests a **low level of financial risk**. However, it's essential to consider that the expected operational capacity in the first, second, and third years is **80%** each year. The safety margin for these three years is **42.6%**, indicating a **moderate risk level** for all three years.

Additionally, sensitivity analysis of net profit to sales changes is noteworthy. The calculations show that the **composite leverage** for the first, second, and third years is **1.35, 1.39, and 1.39**, respectively. A **10% decrease in estimated sales** would result in a **13.48%, 13.92%, and 13.90%** reduction in net profit for the first, second, and third years, respectively, highlighting the project's risk level.

The **payback period** of the project is 2 years & **10 months** & 15 days, indicating a **very low risk** based on this criterion. However, the company's credit sales and associated collection risks suggest a **moderate risk**. Considering the nature of the products, **pricing risk** is also evaluated as moderate.

- **Innovation and Technology Risk:**

This project relies heavily on advanced technology and skilled human resources. Due to the rapid technological changes and high reliance on knowledge-based staff, the project faces **high technology risk**. The **innovation risk** is also assessed, but based on the type of innovation involved, the project holds a **moderate to low risk** level.

- **Project Completion Risk:**

The total capital required for the project is **4,224,751,670,455 Rials**, with **100% funded by investors** and **0% by banks**. This suggests a **very low risk of project incompleteness** due to the absence of dependence on bank loans. However, risks related to **land acquisition, construction delays, machinery procurement, and unexpected events** should not be overlooked.

- **Human Capital Risk:**

The project will employ **55 people**, introducing potential risks related to workforce management. To mitigate these risks, practical training will be provided, along with **social security coverage, accident insurance, and employer liability insurance**.

Risks related to **recruitment, motivation, and employee turnover** will be addressed through human capital management strategies focused on **talent acquisition, retention, and skill development**.

- **Fixed Asset Risk:**

The project involves an investment of **1,402,952,400,000 Rials** in fixed assets such as buildings, machinery, and equipment. These assets are subject to multiple risks, including **theft, fire, and machinery breakdown**. Appropriate **insurance coverage** will be obtained to mitigate these risks.

- **Current Asset Risk:**

An additional **2,821,799,270,455 Rials** is invested in current assets. Similar to fixed assets, these are exposed to various risks. To manage these risks, comprehensive **insurance policies for theft, fire, and machinery failures** will be secured.

- **Operational Risk:**

Operational risks may challenge the solid and semi-solid pharmaceutical production

project. These include **process inefficiencies, outdated IT systems, weak supply chains, poor maintenance, and human resource management issues.**

Mismanagement, lack of industry knowledge, insufficient data, and flawed data processing can also contribute to operational risks. Continuous **risk identification and control programs** will be implemented to mitigate these risks.

- **Strategic Risk:**

Strategic risks arise when the business strategies or models fail to meet market demands or growth expectations. The project aims to mitigate this risk through **strategic flexibility**, enabling adjustments in the **business model, revenue strategies, and marketing plans** as needed.

- **Other Risks:**

The project is also exposed to additional risks such as **market risks, economic fluctuations, and political-legal challenges.** A comprehensive **risk identification, management, and control plan** is integrated into the company's management structure to address these threats.

Impact of Competitive Forces on Profit Margins:

Competitive forces are of great importance when analyzing industry profit margins and determining its attractiveness. The strength of these forces must be considered in the development of business plans. Below is an analysis of the competitive forces for **the solid and semi-solid pharmaceutical production plan**, based on the five competitive forces.

Threat of New Entrants (Barriers to Entry): The evaluation of the production landscape for solid and semi-solid pharmaceuticals indicates a moderate level of threat from potential new entrants, achieving a score of 550 out of 1000. This assessment is influenced by several key factors: the industry's resilience to geographical market dependencies for achieving commercial success, the absence of proprietary production methodologies, and a general lack of advanced technical expertise and operational experience among established companies. Together, these elements contribute to the moderate competitive threat within this sector.

Competitive Power of Existing Rivals: In analyzing the competitive landscape, it is evident that rivalry among firms is the paramount factor influencing both profitability and the overall appeal of an industry. In various sectors, competition can become fiercely aggressive, with companies sometimes resorting to pricing strategies that drive prices below cost, resulting in widespread industry losses. Furthermore, competitive tactics are not limited to pricing; they encompass a spectrum of non-price strategies, including advertising, product innovation, and customer engagement. The intensity of competition within an industry is contingent upon the number of players and their strategies to respond to one another's market maneuvers. Specifically, in the context of the solid and semi-solid pharmaceutical production sector, a detailed analysis indicates that this niche is characterized by significant competition from established players producing similar products. These incumbents represent a formidable force and largely dictate the competitive dynamics of the sector. Their strategies, which include customer acquisition initiatives, recruitment of skilled personnel, procurement of quality raw materials, and control over distribution channels, establish a framework of competitive behavior that is critical to consider. Understanding the current positioning and future trajectory of these competitors is essential for strategic planning and successful market navigation in this industry. The plan data highlights that this business operates in a highly competitive landscape, necessitating a strategic approach to its operations. Key considerations include the selection of technology, machinery capacity optimization, suitable geographical establishment, organizational architecture, and the formulation of strategic and operational plans. To ensure survival, competitiveness, and growth, the company must engage in continuous environmental and competitive analysis, emphasizing its internal capabilities. The intense competition demands an intelligent market entry, precise business element design, and a focus on managerial efficacy and marketing acumen, all while developing sustainable

competitive advantages. Management aims to enhance competitive positioning through ongoing improvements, value creation across the value chain, an emphasis on customer and competitor insights, and the promotion of internal alignment. This strategy is intended to cultivate competencies that allow the firm to consistently surpass competitors and maintain high-performance standards and quality control over time.

Augmenting competitive advantages relies on various factors, including cost structure, brand equity, product quality, distribution efficacy, and customer service excellence. A comprehensive program is underway to bolster these elements. The competitive threat score stands at 625 out of 1000, with critical drivers of this intensity being the perishable nature of products, minimal switching costs, and the lack of strong brand loyalty among consumers.

Bargaining Power of Suppliers: This refers to their capability to exert pressure on industry players to lower profits while demanding improved or more affordable products. For the solid and semi-solid pharmaceutical production plan, it's indicated that the bargaining power of buyers is moderate, with a threat score of 522.5 out of 1000. This situation is influenced by factors such as the significance of customer purchases, their contribution to overall purchase baskets, and the standardization of the products available in the market.

Bargaining Power of Suppliers: Suppliers are all companies, organizations, industries, and businesses that provide the necessary raw materials, equipment, and facilities for producing and offering products. Suppliers can exercise their bargaining power by increasing prices or decreasing the quality of inputs. The analysis of the bargaining power of suppliers in the solid and semi-solid pharmaceutical production plan reveals that the power of suppliers in this business is moderate. The score obtained for this threat is 500 out of 1000. Among the contributing factors are the number of suppliers, the lack of substitute raw materials, and the threat of forward integrations by suppliers.

Threat of Substitute Products and Services: Another important factor influencing the attractiveness of an industry is the threat of substitute products or services. A substitute product provides a similar benefit to the current product (not to be confused with competing products). The willingness of buyers to switch to a new product and the price they are willing to pay for it depend partly on the availability of substitute products. If there are no close substitutes for a product, it means that competition in the market for similar products is not intense, and consumers are not very price-sensitive. However, the presence of close substitutes causes customers to shift to those alternatives in response to price increases. The analysis of the threat of substitute products or services in the solid and semi-solid pharmaceutical production plan shows that the bargaining power of customers regarding substitutes is low. The score obtained for this threat is 375 out of 1000. The main factors contributing to this threat include the shortening of the product life cycle, better conditions for substitute products, and the availability of substitute products.

7- Physical Progress of the Plan to Date:

Completed ☐ Not Completed ☒

This plan is an innovative initiative, conceptualized with the primary objective of addressing the nation's specific needs. To date, the implementation phases of this project have not made any tangible progress.

8- Operational Program and Plan Implementation Schedule:

The implementation of the plan's phases, spanning from inception to full operational deployment, is estimated to be completed over a duration of 17months.

Plan Implementation Schedule:

M	M	M	M	M	M	M	M	M	M	M	M	Mth	M	Mt	Mt	M
th	th	th	th	th	th	th	th	th	th	th	th	. 13	th	h.	h.	t

		.1	.2	.3	.4	.5	.6	.7	.8	.9	.10	.11	.12		.14	15	16	h.17
The Plan for the Production of Solid and Semi-solid Pharmaceuticals.	Feasibility Study																	
	Obtaining license																	
	Construction																	
	Equipment																	
	Training																	
	Operation																	

9- Project Financial Plan:

9-1. Cost Estimates:

The overall investment for the plan, considering the stages of implementation and operational commencement, is divided into two types: fixed investment and initial working capital. The required capital before the operational phase and plan establishment is provided through fixed investment, while the necessary capital during the operational phase is covered through working capital. The fixed investment of the plan includes costs related to land, site development, buildings, machinery and equipment, utilities, office equipment, and pre-production expenses. These types of costs occur at the beginning of the plan, prior to operational commencement, and are depreciated over the lifespan of the plan, based on their useful life. Working capital includes the funds required during the operational phase of the project. The working capital of a manufacturing unit consists of a set of facilities, inventories, work-in-progress, as well as liquidity needed for utilizing and leveraging fixed investments to maintain, sustain, and continue the necessary operations. The determination of the amount of inventories, work-in-progress, and receivables depends on the conditions of supply, production, sales processes, and the business environment.

In this section, the assessment and estimation of the required investment for the plan (based on the base year price) have been conducted and calculated. The cost estimates for the solid and semi-solid pharmaceutical production project are provided in the table below:

Costs Estimates

No.	Item	Cost (Million IRR)
1	Fixed Capital Investment	1323540
2	Operational Costs (Working Capital)	79412
3	Total	1402952

Fixed Investment Estimation (Capital Costs)

No.	Item	Row Item Cost (Million IRR)	Percentage of Total	Remarks
1	Land	150,000	0.11	
2	Landscaping	8,000	0.01	
3	Building Construction	552,000	0.42	
4	Machinery and Equipment	592,500	0.45	
5	Utilities and General Equipment	0	0.00	
6	Transport Vehicles	10,000	0.01	
7	Office Supplies and Others (Contingency)	11,040	0.01	Based on predefined assumptions, a percentage of the building investment
8	Intangible Assets	0	0.00	

Note: The office supplies cost is calculated as 2% of the total building investment.

Cost Summary and Fixed/Variable Cost Analysis

Description	Total Cost		Fixed Cost		Variable Cost	
	Amount Project(Million IRR)	Share	Amount (Million IRR)	Share	Amount (Million IRR)	Share
Raw Material and Packaging Costs	11.813.970	0.94	0.00	0.00	11.813.970	1.00
Wages and Salaries	186.468	0.01	74.587	0.40	111.880	0.60
Energy Costs (Water, Electricity, Fuel)	4200	0.00	840.00	0.20	3,360.00	0.80
Repair and Maintenance	38004	0.00	7600	0.20	30403	0.80
Financial Facility Costs	0.00	0.00	0.00	1.00	0.00	0.00
Insurance	26470	0.00	25147	0.95	1323	0.05
Depreciation Costs	98368	0.01	98368	1.00	0.00	0.00
Administrative and Sales Costs	243349	0.02	48670	0.20	194680	0.80
Unforeseen Costs	124108	0.01	62054	0.50	62054	0.50
Total	12534940	1	317267	0.23	12217671	0.77
Break-Even Point Production Percentage		0.30	Production Value to Achieve Break-Even Point		375,000	

- Raw material costs are categorized entirely as variable costs, constituting 100% of the associated expenditures.
- The cost structure for salaries and wages is comprised of 40% fixed costs and 60% variable costs.
- Energy costs are calculated as 20% fixed costs and 80% variable costs.
- Maintenance costs are calculated as 20% fixed costs and 80% variable costs.
- Insurance expenses, representing 1% of the total investment value, are structured with a cost distribution of 95% fixed costs and 5% variable costs.
- Depreciation expenses are considered 100% fixed costs. The depreciation rates are as follows: 2% for buildings, 4% for machinery and equipment, 10% for installations, 20% for transportation vehicles, and 10% for office supplies.
- Administrative and sales expenses (equivalent to 20% of total costs) are considered 20% production costs and 80% non-production costs.
- Contingency (equivalent to 20% of total costs) are considered 50% fixed costs and 50% variable costs.

The main items in determining working capital are as follows:

- Raw Materials (Domestic and Imported): To mitigate production disruptions, a comprehensive analysis of the raw materials supply chain—both domestic and imported—is essential. This entails evaluating factors such as industry type, production volume, source reliability, and supply methodologies. Critical considerations include the lead time from order placement to material receipt, delivery schedules, and the quantities of raw materials, auxiliary components, and packaging needed. These elements are integral to working capital management and the overall inventory strategy. In this framework, the inventory coverage period for raw materials is strategically established at 15 days to ensure optimal operational continuity.
- Finished Goods and Work-in-Progress: Taking into account the stages and production methods, the time required to manufacture the goods and store them in the warehouse is reviewed, and the associated costs are considered as part of working capital. In this plan, the coverage period for both work-in-progress and finished goods is set to 15 days.
- Receivables (Expected Cash from Sold Goods): The time required to collect the expected cash from sold goods in the short term should be specified. In this plan, due to the market conditions in Iran, the payment is considered to be in cash.
- Petty Cash for Operating Expenses: The amount of cash or petty cash set aside for the company's ongoing expenses is considered in the working capital calculation based on production costs (excluding raw material costs and depreciation). In this plan, one month's worth of petty cash is considered. In this plan, an equivalent of 1 month is considered.

Working Capital Estimate (Production Costs)

Title	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412
Raw Materials	5	5	5	5	5	7	7	7	7	7
	67,070	67,070	67,070	67,070	67,070	08,838	08,838	08,838	08,838	08,838

	,560,000.00	,560,000.00	,560,000.00	,560,000.00	,560,000.00	,200,000.00	,200,000.00	,200,000.00	,200,000.00	,200,000.00
Personnel Salaries	1,243,200.00	1,243,200.00	1,243,200.00	1,243,200.00	1,243,200.00	1,553,000.00	1,553,000.00	1,553,000.00	1,553,000.00	1,553,000.00
Petty Cash - Other	840,000.00	840,000.00	840,000.00	840,000.00	840,000.00	1,050,000.00	1,050,000.00	1,050,000.00	1,050,000.00	1,050,000.00
Receivables	1,567,859,400.00	1,567,859,400.00	1,567,859,400.00	1,567,859,400.00	1,567,859,400.00	1,959,824,250.00	1,959,824,250.00	1,959,824,250.00	1,959,824,250.00	1,959,824,250.00
Finished Goods Inventory	673,598,110.455.06	771,026,188.839.06	886,230,124.319.32	1,018,264,317.923.21	1,170,103,640.567.70	1,676,342,451.009.45	1,926,893,493.616.87	2,215,027,192.615.40	2,546,380,946.463.71	2,927,437,763.389.27
Total	2,821,799,270.455.06	2,919,227,348.839.06	3,034,431,284.319.32	3,166,465,477.923.21	3,318,304,800.567.70	4,361,593,901.009.45	4,612,144,943.616.87	4,900,278,642.615.40	5,231,632,396.463.71	5,612,689,213.389.27
Increase or Decrease in Working Capital	2,821,799,270.455.06	97,428,078.384.00	115,203,935.480.26	132,034,193.603.90	151,839,322.644.48	1,043,289,100.441.76	250,551,042.607.42	288,133,698.998.53	331,353,753.848.31	381,056,816.925.56

8-2. Revenue Estimates:

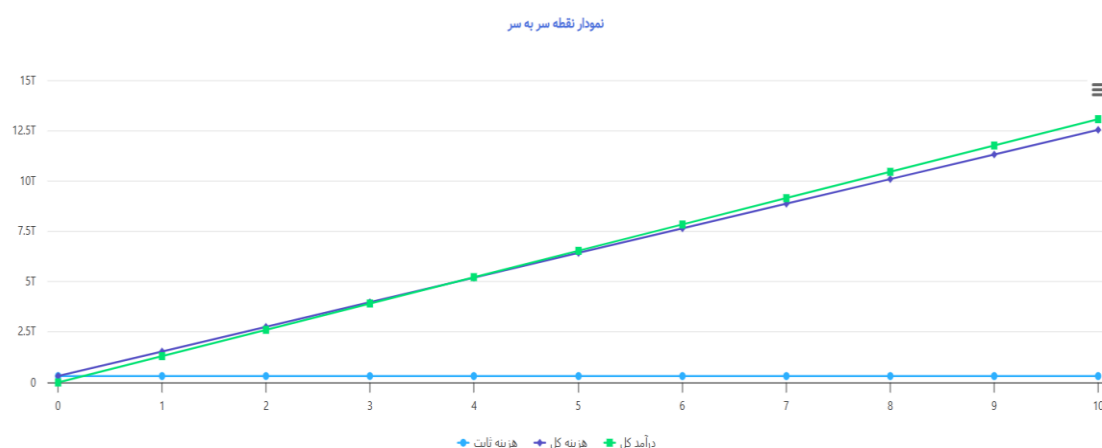
Project Revenues

No.	Product Name	Production Volume After Completion (Units)	Price (Million IRR)	Total Revenue (Million IRR)
1	Losartan Potassium 25 mg Tablet	125,000,000	6,300	787,500,000,000
2	Valsartan 160 mg	30,000,000	27,400	822,000,000,000

	Tablet			
3	Rivaroxaban 20 mg Tablet	5,000,000	86,875	434,375,000,000
4	Naproxen 250 mg Tablet	90,000,000	83,500	7,515,000,000,000
5	Gabapentin 100 mg Capsule	92,500,000	12,200	1,128,500,000,000
6	Price of Pregabalin 150 mg Capsule	20,000,000	13,000	260,000,000,000
7	Price of Pantoprazole 40 mg Capsule	30,000,000	10,400	312,000,000,000
8	Fenofibrate 200 mg Capsule	7,500,000	1,016	7,620,000,000
9	Triamcinolone Ointment NN	1,125,000	370,000	416,250,000,000
10	Cansderm Clotrimazole Cream	750,000	148,000	111,000,000,000
11	Piroxicam 0.5%	1,125,000	450,000	506,250,000,000
12	Zinc Oxide 25% 30g	1,500,000	510,000	765,000,000,000
Total				

Break-Even Analysis:

From an economic perspective, the break-even analysis is an important technique used to study the relationship between costs, revenue, and profit. According to the definition, the break-even point is the point where the operation of the project generates neither profit nor loss. In other words, the break-even analysis determines the point where sales revenue equals production costs, and it is used to analyze how changes in the volume of products will affect profit. The break-even sales percentage is 37.42%. This means that to reach a point where there is neither profit nor loss, 37.42% of the nominal capacity must be utilized.



Cost-Benefit Analysis

In project analysis, one of the most common methods is the Benefit-Cost Ratio (BCR). In this method, the ratio of the present value of expected benefits to the present value of costs is calculated. If this ratio is greater than one, the project is considered economically viable for implementation. Based on this index, the project meets the favorable conditions. Another evaluation method is the Net Present Value (NPV), which is calculated using the following relation:

NPV= Present Value of Total Costs during Execution and Operation –
Present Value of Total Revenues during Execution and Operation
NPV= Present Value of Total Costs during Execution and Operation –
Present Value of Total Revenues during Execution and Operation
NPV= Present Value of Asset Depreciation + Initial Investment –
Present Value of Future Cash Flows
NPV=Present Value of Asset Depreciation+Initial Investment –
Present Value of Future Cash Flows

The Net Present Value (NPV) of the plan at a discount rate of 25% is 2,433,748 million IRR, and its positive value indicates the economic viability of the plan. Another method for evaluating investment projects is the Internal Rate of Return (IRR). The internal rate of return is the rate at which the present value of all benefits of the project equals the present value of its costs. According to the calculations, the internal rate of return (IRR) of the project is estimated to be 35.52%, which is desirable compared to the minimum expected rate of return (MARR).

Key Financial Ratios Calculation:

	Ratio Title	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Liquidity Ratios	Current Ratio	1.395	1.833	2.099	2.359	2.031	1.400	1.655	1.691	1.721	1.746
	Quick Ratio	9.42	12.82	15.04	17.14	15.09	10.10	12.23	12.77	13.22	13.61
	Current Assets to Total Assets Ratio	0.74	0.79	0.82	0.85	0.88	0.91	0.93	0.95	0.96	0.98
Leverage Ratios	Long-term Debt to Equity Ratio	0.05	0.04	0.04	0.04	0.04	0.07	0.06	0.06	0.06	0.06
	Current Debt to Equity Ratio	0.06	0.04	0.04	0.04	0.05	0.07	0.06	0.06	0.06	0.06
	Debt to Shareholders' Equity Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Activity Ratios	Total Asset Turnover Ratio	1.95	2.44	2.55	2.68	2.74	3.22	3.21	3.18	3.15	3.13
	Fixed Asset Turnover Ratio	7.59	11.33	14.20	17.93	22.87	36.88	48.31	64.53	88.51	126.07
Profitability	Gross Profit Margin	0	0	0	0	0	0	0	0	0	0

Ratios		.12	.09	.08	.07	.08	.09	.08	.08	.08	.08
	Operating Profit Margin	0.09	0.06	0.05	0.04	0.05	0.07	0.06	0.06	0.06	0.06
	Return on Assets (ROA)	0.18	0.14	0.13	0.12	0.14	0.22	0.19	0.19	0.19	0.19
	Return on Equity (ROE)	0.19	0.15	0.14	0.12	0.15	0.23	0.20	0.20	0.20	0.20

The Profitability Index indicates how much economic profit will be generated over the life of the project for every unit of money invested in the project.

The Payback Period of an investment project refers to the time required to recover the initial investment from the project's revenues. In other words, the payback period indicates the duration it takes for the initial investment to be recouped. This metric reflects the speed of return on investment and the project's ability to withstand risk. The simple payback period for the project is estimated to be 2yrs & 10 months & 15 days, based on the calculations.

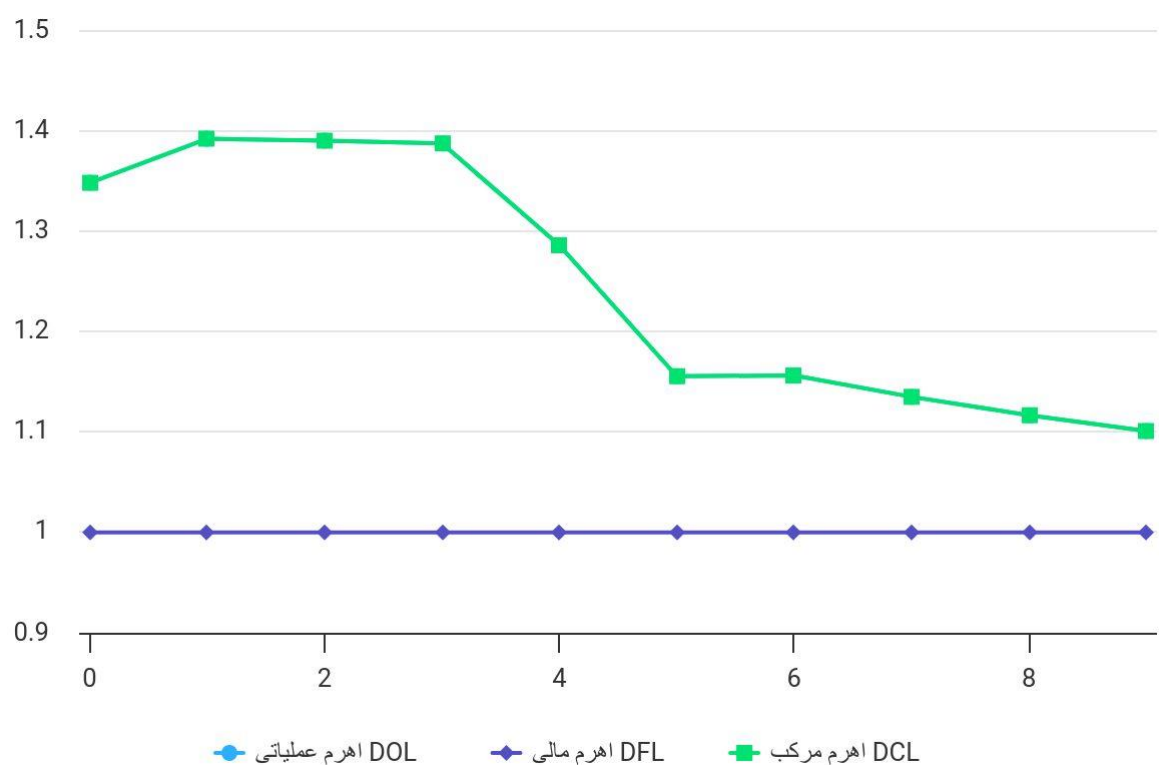
Conducting Sensitivity Analysis of the Plan:

The sensitivity analysis of the plan evaluates the percentage variations in the Internal Rate of Return (IRR) corresponding to fluctuations in key parameters and variables inherent to the plan. This analysis focuses on critical factors, including sales revenue, fixed costs, and operating costs associated with the project. The results of this sensitivity analysis are summarized in the table below, highlighting metrics such as Operating Leverage (DOL), Financial Leverage (DFL), and Combined Leverage (DCL).

The degree of Operating Leverage and Combined Leverage (overall company risk) has been continuously decreasing from the first year to the tenth year, indicating a reduction in risks. This trend is clearly evident in the following chart.

Leverage Type	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412
Operating Leverage (DOL)	1.3	1.3	1.3	1.3	1.2	1.1	1.1	1.1	1.1	1.1

Leverage Type	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412
	5	9	9	9	9	6	6	3	2	0
Financial Leverage (DFL)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0	0	0	0	0	0	0	0	0	0
Combined Leverage (DCL)	1.3	1.3	1.3	1.3	1.2	1.1	1.1	1.1	1.1	1.
	5	9	9	9	9	6	6	3	2	



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8-3. Project Operation Period:

In general, there are three types of project life cycles in production projects:

- Project Life Cycle or Construction Phase
- Operation Life Cycle or Production Phase
- Product Life Cycle

The Project Life Cycle corresponds to the construction phase of the project. In this phase, substantial costs are usually incurred. A successful project is one that completes this phase within the predetermined time and cost limits. To achieve this, project management techniques must be employed along with proper and timely control, so any issues can be corrected during the planning phase.

The Operation Life Cycle refers to the production phase, which includes the useful life of the operation or production. In the case of solid and semi-solid pharmaceutical production, this phase is typically designed to last for 10 years. During the operational process, income and expenses will be generated due to product sales. However, the revenue is typically greater than the expenses, otherwise, the project would not be economically viable. In the operation life cycle, project management techniques are no longer applicable. Instead, production planning methods and operational process methods are more suitable for planning, with maintenance management being the key focus during the operation phase in industrial projects.

8-7. Conclusion:

The proposed plan will be executed on a 10,000 square meter site, comprising 6,000 square meters allocated for construction and 4,000 square meters designated for landscaping. The overall investment for land acquisition, infrastructure development, and landscaping is projected at 710 billion IRR. The pre-operational investment is estimated at 79.41 billion IRR, while the total fixed capital necessary for the plan amounts to 1,323.54 billion IRR. Additionally, the working capital requirement stands at 79.41 billion IRR. Consequently, the total projected investment for the initiative is approximately 1,402.95 billion IRR, with financing sourced through the company's equity contributions. The internal rate of return (IRR) for this initiative is projected to be 68.40%, indicating a robust potential for profitability. Furthermore, the payback period (PBP) is anticipated to be a maximum of 2 years & 10 months & 15 days. The liquidity position of the project appears favorable, supporting the ongoing payment of dividends to shareholders from the company's earnings. Assuming that the outlined assumptions and financial estimates hold true, the plan shows significant promise for profitability, and its implementation is

therefore recommended. The economic viability of the project is encapsulated in the details provided.

“Summary of the Project’s Economic Aspects”

Activity Type	Activity Title with ISIC Code	Product Name	Nominal Capacity (Unit)
Manufacturing	2423416369	Solid and Semi-Solid Medicines	404500 units
Project Duration:	Total Fixed Investment (Million IRR):	Annual Working Capital (Million IRR):	Required Workforce:
17 month	1,323,540 million IRR	79,412 million IRR	55 persons
Internal Rate of Return (IRR):	Net Present Value (NPV) (Million IRR):	Applicant’s Contribution (Million IRR):	Profitability Index (B/C Ratio):
68.40%	40.845.99 million IRR	--	3.91

❖ Economic and Strategic Analysis

Internal Rate of Return (IRR): The IRR of 68.40% indicates a highly profitable project. This return rate significantly exceeds bank interest rates and annual inflation, indicating a quick capital return and strong profitability in both the short and long terms.

Net Present Value (NPV): An NPV of 40804599 million IRR clearly shows that this project not only covers all initial investment costs but also generates considerable profit. This figure reflects the project's profitability and investment attractiveness.

Benefit-Cost Ratio (B/C): A B/C ratio of 3.91 indicates that for every unit of cost, 2.73 units of profit will be generated. This economic indicator confirms that investing in this project is highly rational and profitable, providing a good return on investment.

Payback Period: A payback period of 2years & 10 months & 15 days means that investors can recover their investment in a very short time. After this

period, the project will only generate profits. This feature reduces investment risk and increases investor confidence.

Annual Working Capital and Workforce: With a need for 79,412 million IRR in annual working capital and the hiring of 55 employees, this project demonstrates significant potential for job creation and positive impact on the local economy. This could also attract government and social support.

8-8. Estimation of Exchange Rate Variations During Project Execution

Regarding the procurement of machinery and equipment for the project, since part of the required equipment will be sourced from abroad, an increase in the exchange rate will lead to an increase in the initial investment costs for the project. Conversely, a decrease in the exchange rate will reduce the initial investment costs for the project. As for the procurement of raw materials, since some of the raw materials needed for the project will be imported, an increase in the exchange rate will result in higher production costs. Regarding product sales, since the revenue generated from sales has been calculated based on domestic sales, fluctuations in the exchange rate will not affect the revenue from sales.

8- Capital Requirements, Financing Methods, and Collateral:

9-1. Required Foreign Currency Capital:

No.	Year	Amount of Required Currency
1	First	315,280 USD
2	Second	157,640 USD
3	Third	0
4	Fourth	0
5	Fifth	0

9-2. Participation and Funding Methods:

The financing allocated for the production facility specializing in solid and semi-solid pharmaceuticals is aligned with the government's strategic initiatives

aimed at bolstering the healthcare sector. This loan underscores the importance of enhancing production capabilities to support the advancement of pharmaceutical manufacturing units. Producers looking to establish a solid and semi-solid pharmaceutical manufacturing unit but lacking sufficient capital may seek financial assistance through banking facilities. To secure financing for the production of solid and semi-solid pharmaceuticals, specific criteria outlined in the terms and conditions must be satisfied. A key requirement is the economic viability of the production plan; if the estimated costs surpass anticipated revenues and profits, the endeavor may be deemed economically unjustifiable. This situation poses a risk of substantial financial losses for the producer. The Ministry of Health, Treatment, and Medical Education operates under the provisions stipulated in "Clause A of Note 18 of the Budget Law" and "Clause A of Article 52 of the Accession Law" to facilitate lending and financial support within the health and treatment sectors. This initiative aims to provide favorable loan conditions, including competitive interest rates, to promote equity among prospective entrepreneurs in these fields. Both regulatory frameworks—"Clause A of Note 18" and "Clause A of Article 52"—are specifically designed to incentivize and streamline investment in healthcare and its ancillary sectors, ensuring that applicants receive the necessary support to foster business growth in this vital area.

9-3. Payback Period:

The estimated payback period for the solid and semi-solid pharmaceutical manufacturing project, taking into account both fixed and variable capital expenditures alongside projected annual sales, is approximately 2years & 10 months & 15 days. This timeframe indicates that the initial investment is expected to be recouped within this duration.

9- Incentives, Features, and Advantages of the Plan:

Financial support mechanisms for production units encompass the provision of bank loans along with the establishment of repayment terms, as well as tax exemptions that enhance the plan's viability and foster an investment-friendly environment. Although some of the following conditions are not outlined in the current plan, they are presented for reference: A primary financial avenue for production units is the availability of long-term loans, which can fund up to 70% of fixed capital investment from state-owned banks. In more economically challenged regions, this funding may be elevated to 90% if foreign machinery is utilized. The interest rate for long-term loans within the industrial sector is pegged at 23%, with the potential for interest forgiveness contingent upon maintaining a favorable repayment history. The repayment period for these loans can extend up to 8 years, influenced by plan specifics, technology type, and product export potential, alongside the possibility of a grace period of one to two years. Additionally, short-term loans, typically ranging from 6 to 12 months, serve as working capital for production activities. The banking sector generally covers up to 70% of this amount. Securing these short-term loans is contingent upon establishing the bank's confidence in the borrowing entity, demonstrated through a strong repayment history on prior loans.

10- Supply Chain:

The supply chain for the production of solid and semi-solid pharmaceuticals consists of several key stages, each requiring careful attention and coordination. The main stages of the supply chain are as follows:

- 1) Raw Material Procurement
- 2) Raw Material Quality Control
- 3) Production
- 4) Final Quality Control

- 5) Packaging and Labeling
- 6) Distribution
- 7) Sales and Marketing
- 8) After-Sales Service
- 9) Continuous Analysis and Improvement

11- Executive Summary:

For this project, an amount of 1,323,540,000,000 rials will be invested as fixed capital in various items, and 79,412,400,000 rials will be allocated for obtaining permits, preparing plans, trial operation, etc. With this figure considered, the total investment in this project will reach 1,402,952,400,000 rials. On the other hand, in the first year of operation, working capital of 2,821,799,270,455 rials will be required, which will increase to 2,919,227,348,839 rials in the second year and 3,034,431,284,319 rials in the third year. It is worth mentioning that the percentage of utilization of nominal capacity in the first, second, and third years is 80%, 80%, and 80%, respectively. Additionally, estimates show that the total income of the project at 100% nominal capacity will be 13,065,495,000,000 rials.

In total, the project will create 55 jobs across various positions. Moreover, this project does not require any bank loans, which constitutes 0% of the total required investment (both fixed and working capital).

The profit in the first year of the project is 911,913,874,396 rials, which, considering the depreciation value and inflation in the assumptions, will increase to 3,264,111,827,297 rials by the tenth year.

Based on the calculations, the internal rate of return (IRR) for this project is 68.40%, which is significantly higher than the expected return rate for the investor (20%). Therefore, in terms of this financial indicator, investment in this

project is recommended. Additionally, the project will achieve a return on investment in 2years & 10 months & 15 days, reaching the break-even point with 37.42% of nominal capacity. A summary of the most important financial data is provided in the table below:

No.	Title	Amount	Interpretation
1	Payback Period	34.5	This means that after 2years & 10 months & 15 days, the project's net profit will cover the initial investment.
2	Break-even Sales Percentage	37	In this project, to reach a point where there is neither profit nor loss, 37% of the nominal capacity must be utilized.
3	Debt Ratio in the First Year	5.3	This means that a total of 5.3% of the total assets are financed through debt.
4	Debt-to-Equity Ratio in the First Year	0.0	This means that the company's short-term and long-term debts are 0.0% of the equity.
5	Total Asset Turnover Ratio in the First Year	195	This means that sales are 195 times the total value of the assets.
6	Net Profit Margin in the First Year	12.2	This means that 12.2% of the sales or revenue is net profit.
7	Net Profit Margin in the Final Year	8.4	This means that 8.4% of the sales or revenue is net profit.
8	Current Ratio in First Year	14	This means that current assets are 14 times the current liabilities.
9	Current Ratio in the Final Year	17.5	This means that current assets are 17.5 times the current liabilities.
10	Combined Leverage	1.3	This means that for every 1.3% change in revenue, net profit will change by 1.7%.
11	Investment per Person	25.5 08.255.4 55	For each job created in this plan, an investment of 25508255455 million IRR is made.
12	Subsidy per Job Creation	0	For each job created, 0 million IRR of subsidies are used.
13	Profitability Index	3.9	
14	Share of the Most Significant Investment Item	44.8	44.8% of the plan's fixed investment is allocated to machinery and equipment, which constitutes the largest share of the investment items.

