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An Eeconomic Analysis Study for the Rehabilitating and Operating of Medical Bottles Factory in Anbar Governorate

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Abstract

The study aims to measure and analyze the economic and social traces to the idea of rehabilitating and operating the medical bottles factory in Anbar Governorate. From this point, the significance of the study is derived to investigate the socio-economic returns based on the process of rehabilitating and operating the medical bottles factory in Anbar Governorate. The results show the socio-economic feasibility criteria used: financial profit, return of one dinar, unit costs of production, profit margin, rate of return on invested capital, payback period, break-even point, net present value, internal rate of return, added value, employment rate, the rate of employment, utilization and savings of foreign exchange) positive, encouraging and supportive results for the process of initiating the rehabilitation and operation of the mentioned factory.

Keywords: *economic feasibility, glass industry, Anbar Governorate.*

Introduction

The manufacturing industries in general, and the glass industry in particular, are one of the basic pillars of economic development, due to their interconnection between the

Forward-Backward Linkage with all sectors of the national economy towards correcting its structural imbalances in a way that ensures a forced increase in economic growth rates in particular and diversification of its sources as well as achieving economic savings, especially external economics that contribute to reducing production costs for the production unit.

Within this context, the importance of rehabilitating and operating the medical bottles factory in Anbar Governorate, as it is the mainstay of the pharmaceutical industry and a number of important food industries in the country.

The Significance of the Study

The significance of the study is derived from trying to answer the following question: What are the socio-economic returns based on the process of rehabilitating and operating the medical bottles factory in Anbar Governorate Finding out if these returns encourage the idea of rehabilitating and operating the medical bottles factory in Anbar Governorate to become a fact. The paucity of the researches and studies related to the socio- economic analysis for the rehabilitating and operating of the mentioned factory is another reason for the importance of this study (Republic of Iraq , 2019).

The study Problem

The process of rehabilitating and operating the medical bottles factory in Anbar Governorate collides with a number of technical and financial obstacles. These obstacles can be represented in the following points:

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1-Completing the factory's deficiencies.

2- Starting with the raw materials preparation department and the glass furnace (melting basin).

3-Replacing the damaged machines and production equipment as a result of military operations.

4- Removing bottlenecks in the water.

5- Electricity, gas networks. and fuel.

6- Not to mention the problem of securing the necessary financial allocations to cover rehabilitation and operating expenses.

Research Hypothesis

The study is based on the hypothesis of its essence: that the rehabilitation and operation of the medical bottles factory in Anbar Governorate would achieve important economic and social returns, whether at the level of the mentioned factory or at the level of the General Company for the manufacture of glass and thermostats, as well as returns at the level of the national economy and society alike.

The Aim of the study

The study aims to measure and analyze the economic and social feasibility criteria for rehabilitating and operating the medical bottles factory in Anbar Governorate.

Study Duration

The study covers the period 2021-2030 (Period of the project) because it represents the real age of the factory in question based on rates of depreciation of its fixed assets.

Study Methodology

The analytical method was relied on in measuring the financial, economic and social returns for the rehabilitation and operation of the medical bottles factory in Anbar Governorate, as the study was divided into four axes: The first axis focused on giving a general idea of the factory and diagnosing the main pillars upon which the rehabilitation and operation process of the mentioned factory is based. The second axis dealt with the measurement and analysis of the economic feasibility criteria for the factory, and the third axis dealt with the measurement and analysis of the criteria of social feasibility at the level of the strong economy. In its last axis, the study presented a number of conclusions and recommendations.

General idea about the medical bottles factory

The medical bottles factory was established as one of the factories of the General Company for the manufacture of glass and thermostats in Anbar Governorate in 1990, but it stopped the production more than once as a result of the damage caused to it as a result of the military operations that the country is witnessing, such as damage to the ceilings of production halls, raw materials preparation lines and the vibrating furnace (basin Smelting), loss of some accessories of production machines, tampering and theft of service equipment and energy sources (Ministry of Industry , 2019:7).

Accordingly, it became necessary to think about the process of rehabilitating and operating the aforementioned factory due to the availability of solid pillars that support that process. The first of these pillars is the high percentage of completion from the factory, which amounted to 85% until 2013. (Ministry of Industry , 2019:3) and the second of these pillars, represented by the availability of local raw materials, approximately 85% of the raw materials used in the factory's production is formed(Ministry of Industry , 2019:6).

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The third of these pillars is embodied in the availability of manpower that possesses accumulated technical expertise in the operation, maintenance, construction of furnaces, and the fourth of these pillars, which is reflected in the factory obtaining a monthly share of oil products, according to the official pricing.

The fifth pillar is represented in the local market that absorbs the entire production of the factory because it is the only one specialized in the production of medical bottles, bottles of soft drinks, juices and cans. The last is the great competitiveness that the factory enjoys concerning imported foreign products, where the average selling price per ton is about (400) dollars, while the price of the importer is about (600) dollars (Ministry of Industry, 2019:7)

Analysis of the economic feasibility of the medical bottles factory:

The economic feasibility analysis of the medical bottles factory in Anbar Governorate aims to measure the various financial and economic returns of the idea of rehabilitating and operating the mentioned factory within the period 2021-2030, and diagnosing the possibilities of success or failure for that idea, through the use of several criteria, perhaps the most important of which are the following (Karawi, 2008), (Maarouf, 2004), (Al-Samarrai, 1982) :

(2-1) Financial Profit

The financial profit represents the net income after deducting the total costs from the total revenues as in the following:

Net Profit=Revenues-Costs

It appears from Table No. (1) that the total expected revenue of the medical bottles factory amounted to (84000000) thousand dinars, while the total costs amounted to (72807160) thousand dinars during the period 2021-2030, and accordingly the factory will reap a financial profit of (11192840) thousand dinars during the mentioned period.

Table No. (1) Financial profit for the medical bottles factory in Anbar Governorate for the period 2021-2030

(Thousand Dinars)

Factory	Total revenues	Total costs	Profit
medical bottles	84000000	72807160	11192840

Source: From the work of researchers based on the data of Table No. (1) in the Statistical Appendix

(2-2) Rate of return of one Dinar

The criterion of the rate of return of one dinar is one of the important economic criteria that is used as an indicator for the financial evaluation of the performance of energy production units. It is possible to obtain the rate of return of the dinar according to the following mathematical formula:

Rate of renurn Dainar=The total Revenues/The total costs

According to the above criterion, the investment project is economically feasible when the value of the rate of return of the dinar is greater than one.

In light of this, Table No. (2) reveals that the rate of return per dinar for the medical bottles factory amounted to about (1.15) dinars, which confirms the economic feasibility of rehabilitating and operating the factory under study.

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Table No. (2) The rate of return per dinar for a medical bottle factory in Anbar Governorate For the period 2021-2030

(Thousand Dinars)

Factory	Total revenues	Total Costs	The rate of return per dinar
medical bottles	84000000	72807160	1.15

Source: From the work of researchers based on the data of Table No. (1) in the Statistical Appendix.

(2-3) Costs of the Production unit

The standard of unit costs of production estimates the cost of the unit produced for the investment project, according to the following mathematical formula:

Costs of Prpduction unit=total costs / Value of Production

Table No. (3) indicates that the unit costs of producing medical bottles amounted to (0.90) dinars during the period 2021-2030. Based on that, achieving production at a rate of (100) dinars requires costs of (90) dinars, and this is a positive indicator for the idea of rehabilitating and operating the mentioned factory.

Table No. (3) The unit costs of producing medical bottles factory in Anbar Governorate For the period 2021-2030

(Thousand Dinars)

Factory	Total Costs	Value of Production	unit costs of producing
medical bottles	72807160	80400000	0.90

Source: From the work of researchers based on the data of Table No. (2) in the Statistical Appendix.

(2-4) Gross profit margin standard

The gross profit margin criterion shows the effectiveness and efficiency of the investment project in achieving future sales. The gross profit margin criterion is calculated according to the following formula:

Gross profit margin=total profit / Sales

Table No. (4) shows that the average gross profit margin for the medical bottles factory reached (0.139) during the period under study.

Table No. (4) The gross profit margin for medical bottles factory in Anbar province for the period 2021-2030

(Thousand Dinars)

Factory	**Profit**	**Sales**	Gross profit margin
medical bottles	**11129840**	**80400000**	**0,139**

Source: From the work of researchers based on the data of Table No. (1) And Table No. (3).

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(2-5) Capital Turnover Standard

The economic importance of the capital turnover criterion lies in measuring the contribution of capital in achieving sales for the economic project, as the high rate of capital turnover indicates the better exploitation of the capital element in the production process. This rate is found according to the following formula:

Capital Turnover=Sales value / capital invested

Based on the foregoing, Table No. (5) shows us that the turnover rate of the invested capital in the medical bottles factory amounted to about (6.38)

Table No. (5) The capital turnover rate in the medical bottles factory in Anbar Governorate for the period 2021-2030

(Thousand Dinars)

Factory	Sales	Invested Capital	Capital Turnover
Medical Bottles	**80400000**	**12594500**	**6.38**

Source: From the researchers' work based on the data of Table No. (3) in the Statistical Appendix.

(2-6) Rate of return on invested capital

The criterion of the rate of return on invested capital helps to measure the efficiency of capital use in achieving profits for the economic project, thus controlling the volume of investment and planning to increase or reduce it in the future. The rate of return on invested capital is calculated by adopting the following formula:

*Rate of return on invested capital=profit margill*rate of capital turnover*

By using the data of Table No. (6), we find that the rate of return on investment for the medical bottles factory has reached (0.888)

Table No. (6) The rate of return on investment for a medical bottle factory in Anbar Governorate

Factory	Total Profit	he rate of return of capital	he rate of return on investment
Medical Bottles	0.139	6.38	0.888

Source: Data in Table No. (4) Table No. (5).

(2-7) Payback Period Standard

The payback period is defined as the time during which the economic project can fully recover its costs or investment expenses through the profits it obtains with the operating limit. The payback period is calculated according to the following mathematical formula:

$$Payback\ Perjod = \frac{costs\ of\ Investment}{Annual\ net\ profit}$$

When consulting the data in Table No. (7), it becomes clear that the payback period for the medical bottles factory amounted to (1.12) years, and this means that the mentioned factory will recover the capital invested

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in it within one year, which is almost a short and appropriate period, and therefore the rehabilitation and operation process for it will be feasible economically appropriate.

Table No. (7) Ray's refund period for the medical bottles factory in Anbar Governorate For the period 2021-2030

(Thousand Dinars)

Factory	*Infested Capital*	*Net Profit per year*	*Refund period*
Medical Bottles	*12594500*	*11192840*	*1.12*

Source: Table No. (1) and Table No. (5)

(2-8) Break-Even Point Standard

The break-even point refers to the amount of production at which equality is achieved between the total revenue and the total costs of the investment project. In which the revenues cover all costs, and in this way, all points that lie above the level of the break-even point will make profits for the project, and conversely, the points that are below the level of the break-even point represent losses incurred by that project. The break-even point is calculated mathematically according to the following formula:

$$B.E.P = \frac{Fc}{P - Avc}$$

Using the data provided in Table No. (8), we find that the break-even point for the medical bottles factory amounted to about (99.7) tons/day.

Table No. (8) Break-even point quantity for medical bottles factory in Anbar province

Factory	**(*Fc*) *Fixed cost thousand dinar***	**(*P*) *Produced unit (Dinar Price / Tone)***	**(*Avc*) *Average Variable Cost (Dinar/ tone)***	**(*B.E.P*)** reak-even point quantity Tone day
medical bottles	***2757050***	***600000***	***323119***	***99.7***

Source: From the work of researchers based on data:

Ministry of Industry and Minerals, Investment Department, the investment file for the rehabilitation of the General Company for the manufacture of glass and refractories, rehabilitation and operation of the medical bottles factory in Anbar Governorate, 2019, p. 2-12.

It is new to note here, that **for the purpose to identify** the economic feasibility of rehabilitating and operating the factory under discussion according to the above standard, a comparison must be made between the corrective production capacity and the estimated break-even point quantity, which is known as the safety margin. This means that:

The margin of safety = corrective energy - break-even amount

= 120 – 99.7 = 20.3

= 20.3 **(tons / day),** which represents the amount of production that generates daily profits for the factory.

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(2-9) Net Present Value Standard

The essence of the net present value criterion is embodied by **considering the time element** when calculating the cash flows of the economic project by converting the future cash flows to their equivalent value at **present** by using an appropriate discount rate.

The net present value is usually combined with the difference between the discounted present value of the cash inflows (revenue) and outflows (costs) for the factory, as in the following formula:

$$NPV = \sum_{t=0}^{n} \frac{CF_t}{(1+r)^t}$$

This means:

$$CF = cash\ flow$$

$$r = discount\ rate$$

$$n = years$$

According to the above formula, if the present value formula is positive, it means that the present value of the cash inflows is greater than the current outgoing value, which is a positive indicator and reflects the economic feasibility of productive projects and vice versa To find out the nature of the above standard for the medical bottles factory, we can consult the data of Table No. (9):

Table No. (9) The net present value of the medical bottles factory in Anbar Governorate For the period 2021-2030

(Thousand Dinars)

factory	*he present value of the* ***input***	*The present value of costs*	he net present (***NPV***)value
Medical Bottles	*61825680*	*53587522*	*8238158*

Source: From the work of researchers based on Table No. (1) and Table No. (4) in the Statistical Appendix.

Based on the data of Table No. (9), we note that the net present value of the cash flows of the medical bottles factory for the next ten years (the time of the project) amounted to (8238153) thousand dinars, which indicates that the rehabilitation and operation of the mentioned factory **are** of appropriate economic feasibility.

(2-10) Benefit/cost rate criterion

The ratio of **return / costs** is represented by dividing the present value of the cash inflows by the present value of the cash outflows of the production unit. That is:

$$B/C\ Rate = \frac{\sum_{i=1}^{n} \frac{Bi}{(1+r)^n}}{\sum_{i=1}^{n} \frac{Ci}{(1+r)^n}}$$

This means:

$$Bi = annual\ benefits$$

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$Ci = annual\ costs$

$r = discounl\ price$

$n = number\ of\ projrct\ years$

By referring to the data in the previous table, we note that the current value of the benefits for the medical bottle factory during the next ten years amounted to (61825680) thousand dinars, while the current value of costs amounted to (53587522) thousand dinars, and accordingly, the current peak ratio of **revenue / costs** has reached (1.153), which confirms the economic feasibility of the factory under consideration.

(2-11) Internal Rate of Return

The internal rate of return represents the highest interest rate on the loans needed for the economic project so that the present value of the cash inflows is equal to the value of the cash outflows, that is, without the project being exposed to a loss. This means:

$$NPV = 0$$

The internal rate of return is calculated as follows:

$$IRR = r_1 + (r_2 - r_1) * \left[\frac{NPV\ r_1}{NPV\ r_1 - NPV\ r_2}\right]$$

This means:

$IRR = Internal\ Rate\ of\ Return$

$r_1 = Minimum\ discount\ rate$

$r_2 = Highest\ rate\ of\ dedu\ Gtion$

$NPV\ r_1 = Net\ present\ value\ at\ minimum\ rate$

$NPV\ r_2 = Net\ present\ value\ at\ highest\ rate$

Using the data of Table No. (10), it appears that the internal rate of return for the medical bottles factory reached (% 35.92), which reflects the capital profitability of the mentioned factory. It also reflects at the same time the economic feasibility of rehabilitating and operating the aforementioned factory, as it is more than the obvious value of the investment.

Table No. (10), which is represented by the highest discount price. Internal rate of return for medical bottles factory in Anbar province

(Thousand Dinars)

Factory	r_1	r_2	$NPV\ r_1$	$NPV\ r_2$	IRR
Medical bottles	**%6**	**%17**	**8238148**	**5213640**	**%35.92**

Source: From the work of researchers based on the data of Table No. (5) in the Statistical Appendix.

3- Analysis of the social feasibility of the medical bottle factory:

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The social feasibility analysis of the medical bottles factory in Anbar Governorate aims to measure the social returns of the idea of rehabilitating and operating the mentioned factory at the level of a strong economy, through the use of several criteria, the most important of which are (**Al-Shammah**, 1992), (**Shugairi and Salam**, 2009) , (**Awad Allah**, 2000) :

(The Added Value.)1-3

The value-added criterion is of great importance in analyzing the social feasibility of the investment idea because it helps to measure the impact of the project

On the size of the gross domestic product (or national income)

This criterion is calculated according to the following mathematical formula:

$$The\ total\ added\ value = \begin{matrix} The\ total\ value \\ of\ production \end{matrix} - \begin{matrix} The\ value\ of\ production \\ supplies \end{matrix}$$

According to the above equation, if the added value is positive, it means that the project achieves social profits, and conversely**,** if the added value is negative, this means that the project does not achieve any social profits, but rather drains the national income, whether by wasting economic resources or freezing them without contributing to generating the output. When using the data of Table No. (11), it appears that the total added value of the medical bottles factory amounted to about (3876334) thousand dinars, while the net added value will reach (2616884) thousand dinars in 2021.

Table No. (11) Estimation of the gross and net added value of the medical bottles factory in Anbar Governorate for the year 2021

(Thousand Dinars)

Factory	Value of production requirements	Value of production	Annihilations	Total Added value	Net Added value
Medical Bottles	4523666	8400000	1259450	3876334	2616884

Source: From the work of researchers based on the data of Table No. (5) in the Statistical Appendix.

(2-3) Rate of Employment.

The employment criterion helps evaluate the impact of the project in providing suitable job opportunities for community members and contributing to reducing the unemployment problem. The employment rate can be obtained according to the following formula:

$$Rate\ of\ Employment = Value\ Investment\ /\ Staf\ group$$

Based on the above formula, Table No. (12) shows that the medical bottles factory will provide one job opportunity for an investment expenditure of (88733) thousand dinars.

Table No. (12) The Employment rate for medical bottles factory in Anbar Governorate for the year 2021

Factory	**Workers, No**	**The Value of Investment**	Employment rate
medical bottles	**156**	**12594500**	**88633**

Source: From the work of researchers based on:

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- General Company for the manufacture of glass and refractories / records of the administrative and financial department

Table No. (3) in the Statistical Appendix.

Rate to benefit from foreign (3-3)

The importance of the criterion for benefiting from foreign exchange lies in the fact that most of the capital goods necessary for the industrial development process are imported from abroad, which calls for providing the values of imports in foreign exchange. Based on the above criterion, projects that generate the largest amount of foreign currency are preferred, whether by producing goods for export or replacing them with imported goods and reflecting the outcome of calculating this criterion according to the following formula:

$$Rate\ Foreigin\ Currency = Production\ quantity * Selling\ price$$

It is clear from the data of Table No. (13) that the amount of foreign currency expected to be saved annually for the medical bottles factory is estimated at (8,400,000) dollars, which confirms the social feasibility of the mentioned factory.

Table No. (13) The rate of utilization of foreign exchange for the medical bottles factory in Anbar Governorate

(Dollar)

Factory	Price of selling	Amount of Production –Ton	utilization of foreign exchange
Medical Bottles	600	14000	8400000

Source: From the researchers' work on the data of Table No. (2) of the Statistical Appendix.

3-4 Saving in Foreign Currency

The criterion of savings in foreign currency is of great importance to the national economy, as the high rate of expected savings from the foreign currency is evidence of the high level of social feasibility of the project. The criterion of savings in foreign currency is calculated as follows:

$$Rate\ of\ Saving\ foreign\ currency = \frac{Saving\ Annual\ foreign\ currency}{cost\ Investment\ foreign\ currency}$$

In this regard, the data of Table No. (14) indicate that the expected annual savings in foreign currency amounted to about (8,400,000) dollars and that the cost of investment in foreign currency is estimated at (9480,000) dollars. Accordingly, the percentage of savings in foreign currency for the medical bottle factory is estimated at about (88%).

Table No. (14) The percentage of savings in foreign currency for the medical bottles factory in Anbar Governorate

(Dollar)

Factory	Invested Cost	Annually Saving	The percentage of savings
medical bottles	9480000	8400000	%88

Source: From researchers' work on data:

- The General Company for the manufacture of glass and thermostats, the investment file for the rehabilitation and operation of the medical bottles factory / Anbar Governorate, 2019, p. 12.

Conclusions and recommendations

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Conclusions:

In the foregoing, it was shown to us that the assessment of economic and social feasibility criteria showed positive results for the idea of rehabilitating and operating the medical bottles factory in Anbar Governorate, which proves the validity of the hypothesis of the study.

Where the results showed when applying the criteria of economic feasibility that the mentioned factory will reap financial profits amounting to (11192840) thousand dinars during the period 2021-2030. The rate of return per dinar was about (1.15) dinars, the gross profit margin was about (0.139), and the rate of return on invested capital was about (0.888).

The results also showed when applying the net present value criterion that it amounted to (8238158) thousand dinars and that the present value ratio of the return / costs equals (1.153), while the internal rate of return amounted to about (35.9%).

When applying the capital recovery period standard, it became clear that it is a short period that does not exceed one year and one month. In addition, the application of social feasibility standards also showed positive results no less important than the previous one. The net added value that the factory will generate is about (2616884) thousand dinars.

The foreign operation that this factory will provide annually amounted to about (8,400,000) dollars, while the expected annual savings rate from foreign currency amounted to about 88%, not to mention the (156) job opportunities that the mentioned factory will provide during the first capacity of its operation and its cost is (88733) thousand dinar for one chance.

(4-2) Recommendations:

Based on what was mentioned, the study recommends the following:

(4-2-1): The Investment Department of the Ministry of Industry and Minerals should take upon itself the responsibility of rehabilitating and operating the medical bottles factory in Anbar Governorate, and giving the process of its implementation the utmost care within a time limit not exceeding one year and according to the statements of the field surveys of the General Company for Glass and Refractories Industry.

(4-2-2): The Ministry of Finance and the Central Bank should monitor and provide the necessary financial allocations to cover the full rehabilitation and operating costs of the factory in question.

(4-2-3): The other relevant governmental institutions should undertake to provide adequate support for the factory to enable it to become an effective productivity incubator, whether at the level of the aforementioned company or the level of the industrial sector as a whole.

References

First: Publications and research issued by official authorities:
1- Rehabilitation of the Medical Bottles Factory / Anbar Governorate, (2019), the investment file for rehabilitating the General Company for Glass and Refractories. Ministry of Industry and Minerals, Investment Department, Republic of Iraq

Second: books:
1- Al-Shama`a, Khalil Muhammad Hassan, Financial Management (Iraq, Al-Kholood Press, 1992).
2- Awad Allah, Abdel Moneim, the feasibility study for investment projects (Cairo, Dar Al Thagafa Al Arabiya Press, 2000).
3- Karadi, Talal, Evaluating Investment Decisions, (Amman, Al-Yazuri Scientific Publishing Press, 2008).
4- Maarouf, Hoshyar, Economic Feasibility Studies and Project Evaluation (Amman, Dar Safaa Publishing and Distribution 2004).
5- Mustafa Abdul Aziz, Karadi and Talal, Project Evaluation and Feasibility Study Analysis and Performance Efficiency (Mosul, Dar Al-Kutub for Printing, 1999).
6- Shugairi, Musa Nouri and Salam, Osama Azmi, Economic Feasibility Studies and Investment Project Evaluation (Amman, Dar Al Massirah Press 2009).

Third: Scientific Research:
Al-Samarrai, Hashem Alwan, The Economic Theory of the Economic Feasibility Schedule in Project Evaluation, Journal of the Institute of Arab Research and Studies, No. (11) 1982.

Statistical Appendix

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Table No. (1) Estimating annual revenues and costs for a medical bottle factory in Anbar Governorate For the period 2021-2030

(Thousand Dinars)

Net profit	*Annual costs*	*Annual Revenues*	*Years*
1119284	**7280716**	**8400000**	***2021***
1119284	**7280716**	**8400000**	***2022***
1119284	**7280716**	**8400000**	***2023***
1119284	**7280716**	**8400000**	***2024***
1119284	**7280716**	**8400000**	***2025***
1119284	**7280716**	**8400000**	***2026***
1119284	**7280716**	**8400000**	***2027***
1119284	**7280716**	**8400000**	***2028***
1119284	**7280716**	**8400000**	***2029***
1119284	**7280716**	**8400000**	***2030***
11192840	**72807160**	**84000000**	***Total***

Source: Records of the General Company for the manufacture of glass and thermostats in Anbar Governorate.

Table No. (2) Estimation of the production value of the medical bottles factory in Anbar Governorate For the period 2021-2030

(Thousand Dinars)

Current Revenues thousand dinar	*Price of Selling Dinar*	*Amount of Production - ton*	*Years*
8400000	**600**	**14000**	***2021***
8400000	**600**	**14000**	***2022***
8400000	**600**	**14000**	***2023***
8400000	**600**	**14000**	***2024***
8400000	**600**	**14000**	***2025***
8400000	**600**	**14000**	***2026***
8400000	**600**	**14000**	***2027***
8400000	**600**	**14000**	***2028***
8400000	**600**	**14000**	***2029***
8400000	**600**	**14000**	***2030***
80400000		**140000**	***Total***

Source: Records of the General Company for the manufacture of glass and thermostats in Anbar Governorate.

Table No. (3) Investment costs for the rehabilitation and operation of the medical bottles factory in Anbar Governorate

Details of the rehabilitation and operation	**Estimated Sum** **Thousand Dinar**
machinery, equipment, and accessories	**2520000**
	4895500
Melting furnaces, chimney, and accessories	**1229000**
	500000
Raw materials conveying and weighing lines	**200000**
	3250000

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Installation of Equipping the water and power treatment Energy utility equipment Buildings and constructions	
Total	**12594500**

Source: Records of the General Company for the manufacture of glass and thermostats in Anbar Governorate.

Table No. (4) The present value of revenues and costs for the medical bottles factory in Anbar Governorate For the period 2021-2030

(Thousand Dinars)

(*)Current Value of Annual Costs	***Annual Costs***	***(*)Current Value of Annual revenue***	***Annual revenue***	***Years***
6868627	**7280716**	**7924560**	**8400000**	***2021***
6479837	**7280716**	**7476000**	**8400000**	***2022***
6112889	**7280716**	**7056640**	**8400000**	***2023***
5767055	**7280716**	**6653640**	**8400000**	***2024***
5440879	**7280716**	**6277320**	**8400000**	***2025***
5132904	**7280716**	**5922000**	**8400000**	***2026***
4842404	**7280716**	**5586840**	**8400000**	***2027***
4567921	**7280716**	**5270160**	**8400000**	***2028***
4309455	**7280716**	**4971960**	**8400000**	***2029***
4065551	**7280716**	**4690560**	**8400000**	***2030***
53587522	**72809160**	**61825680**	**80400000**	***Total***

Source: Records of the General Company for the manufacture of glass and thermostats in Anbar Governorate.

(*) The current value was calculated by researchers using a discount rate of 6% ((Interest rate for industrial bank loans))

Table No. (5) The current value of the revenue (financial profit) for the medical bottles factory in Anbar Governorate

Using discount rates of 6%, 17% for the period 2021-2030

NPV r_2 Current value of profit at a discount of price 17%	***(**) Discount price 17 %***	***NPV r_1 Current value of profit at a discount of price 6%***	***(*) Discount price 6%***	***Annual Profit***	***Years***
956652	**0.8574**	**1055932**	**0.9434**	**1119284**	***2021***
817636	**0.7305**	**996162**	**0.8900**	**1119284**	***2022***
698880	**0.6244**	**939750**	**0.8396**	**1119284**	***2023***
597361	**0.5337**	**886584**	**0.7921**	**1119284**	***2024***
510505	**0.4561**	**836440**	**0.7473**	**1119284**	***2025***
436296	**0.3898**	**789095**	**0.7050**	**1119284**	***2026***
372294	**0.3332**	**744435**	**0.6651**	**1119284**	***2027***
318772	**0.2848**	**702238**	**0.6274**	**1119284**	***2028***
272433	**0.2434**	**662504**	**0.5919**	**1119284**	***2029***
232811	**0.2080**	**625608**	**0.5584**	**1119284**	***2030***
5213640		**8238148**		**11192840**	***The Total***

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Source: From the work of researchers:

(*)An interest rate of 6% has been adopted as the minimum interest rate, which represents the interest rate for industrial bank loans

(**)The interest rate of 17% was adopted as a higher interest rate, which represents the highest interest rate for Iraqi banks for long-term fixed investments.

Table No. (6) Cost elements for the medical bottles factory in Anbar Governorate for the year 2021

Items of Cost	***Variable Costs***	***Fixed Cots***
Salaries and wages		**1497600**
annihilations		**1259450**
Raw Materials	**3249400**	
Fuel	**438396**	
Spare parts	**214354**	
Canning and Covering	**350000**	
Water and Electricity	**182196**	
Tools	**44660**	
Total	**4523666**	***2757050***

Source: Public Company for the manufacture of glass and thermostats, records of the Planning and Follow-up Department.