



Pre-Feasibility Study
Establishing A Private Hospital

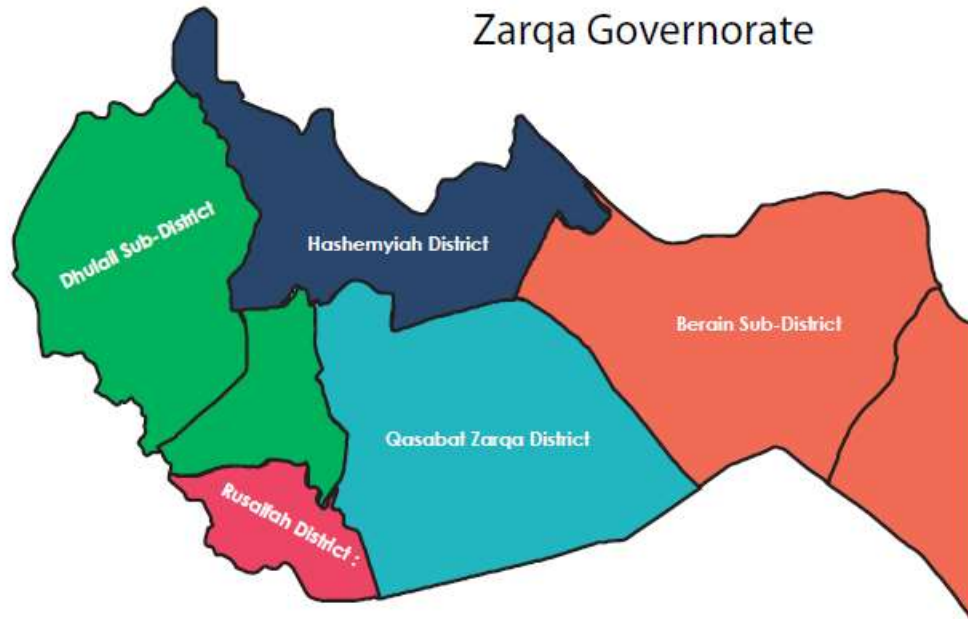
Zarqa

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1. Executive Summary

This study aims at identifying the initial economic feasibility study for the project of establishing an integrated private hospital in Zarqa Governorate, which provides all medical and therapeutic services to the population of the governorate, because the private and public hospitals in it are not sufficient to meet the increasing needs of population, and, in addition, a large number of the governorate's residents go to the capital city's hospitals to receive healthcare services.

Table 1: Initial Indicators of the Project

Project Name	Private Hospital with a focus on Obstetrics & Gynecology and Pediatrics Surgery
Sector	Health
Governorate	Zarqa
Region	Zarqa Governorate (Jabal Tariq near the largest current private hospitals and consultant doctors complexes).
Services	<ul style="list-style-type: none"> • Emergency services • Family medicine clinic • Vaginal and caesarean delivery operations • Care for premature babies • Fertilization and assisted childbirth laboratory (In-vitro-Fertilization) • Admissions and patients' accommodation in all degrees (patient care) • Providing care for critical cases (intensive care) • Treatments of all types • Providing physiotherapy and respiratory therapy • Surgeries (small, medium and large) • X-ray, CT scan and MRI scan • Medical labs of all specialties • Providing and giving drugs (pharmacy) • Leasing the consultants building (clinics) to specialist doctors at a reduced cost for the purpose of facilitating patients' access to doctors and close access of cases which need admission to the doctors and hospital.

Project Description	<p>The project involves the establishment of a new private hospital in Zarqa Governorate for providing all health services to the patients of the Governorate and neighboring Governorates at a high quality and affordable cost that is aligned to the income levels of the governorate's residents. Around 14% of Zarqa Governorate's residents often receive the health services at private hospitals of the capital city for a variety of reasons; foremost of which is the desire to get better and higher quality health services, e.g. childbirth cases and some large and complicated surgical operations. Gross area of the hospital's buildings is 5,600 sq. meters divided into facilities allocated to treatment and facilities of diagnostic medical services. The hospital consists of 111 beds that are capable of increase in case there is high demand for the hospital's services. The hospital provides key therapeutic medical services which include emergency cases, small, medium and large scale surgeries, family medicine clinic and diagnostic services (radiography, laboratory and pharmacy), patient accommodation services along with other medical services. This is in addition to the consultants' building over the area of 3,600 square meters.</p>
Target Market	<ul style="list-style-type: none"> • The patients from Zarqa Governorate • The patients from neighboring Governorates and regions • Arab and non-Arab patients
Investment Cost	<p>The project's investment cost is about JD 14.6 million</p>
The Average return on Investment	<p>Average return on investment (ROI) over the ten years is about 11.2%.</p>
Internal Rate of Return	<p>The internal return rate of the project is about 22.2%.</p>
Average added value of the Project	<p>The project's average added value over the ten years is about JD 4.590 million.</p>
Risk Assessment	<p>The Sensitivity Analysis indicates a low risk in case of 10% increase in investment cost, or 10% increase in operating costs, or 10% decrease in revenues.</p>
The Project Justifications	<ul style="list-style-type: none"> • Private and public hospitals are not sufficient to serve the residents of the Governorate. • Some residents of Zarqa Governorate head for the capital Amman in order to receive private health services. • Increasing the opportunities for Zarqa Governorate's patients to access the health services through the private health insurance. • There is an increasing desire of Zarqa Governorate's people to access the all services related to childbirth, premature babies and In-vitro-Fertilization at high quality, as some of them already go

	<p>to Amman in order to get such services.</p> <ul style="list-style-type: none"> • Attracting the patients from the neighboring Governorates of Zarqa; e.g. Jerash, and some districts of Amman; such as Marqa and Tabarbour. • There is a high number of medical faculties' graduates; e.g. doctors, nurses, radiology technicians and medical analysis technicians in Zarqa Governorate with good experience and reasonable salaries.
<p>Partners/ Stakeholders</p>	<ul style="list-style-type: none"> • The Ministry of Health • The Ministry of Industry and Trade (registration of the company)

2. The Macroeconomic Environment

2.1 An Overview of the Hashemite Kingdom of Jordan

The Hashemite Kingdom of Jordan is a landlocked country surrounded by land except at its southern extremity at the port of Aqaba, where that area is the only sea exit area in Jordan. The Kingdom is bordered at its west side by Palestine and the Mediterranean Sea, at its south and east by the Kingdom of Saudi Arabia, at north east by Iraq and at north by Syria.

Figure1 : Map of the Hashemite Kingdom of Jordan



Jordan is marked by three climatic zones from west to east including the Jordan Valley, most of which lies below sea level and is considered subtropical, and upland areas to the east of the Jordan Valley, ranging in height from 100 to 1500 meters above sea level and this is one of the areas dominated by Mediterranean climate, and the desert areas stretching to the east of the highlands.

The total area of the Kingdom is approximately 89.3 thousand square kilometers, and the semi-desert conditions prevail in over 80% of this area where there are some wet lands settings like Azraq Basin.

The kingdom is divided administratively into twelve governorates distributed into three regions: the Northern Region (includes the governorates of Irbid, Ma'ana, Zarqa, Balqa, Madaba) while the Central Region (includes the governorates of the capital, Zarqa, Balqa, Madaba) and the Southern Region (includes the governorates of Karak, Tafila, Ma'an, Aqaba), and the major cities are Amman (the capital), Zarqa and Irbid.

2.2 Population

Based on the General Census of Population and Housing in 2015, the population in the kingdom amounted to about 9.5 million people with a population density of 107.3 inhabitants per km², where the Capital City knocked off other governorates by population amounting to about 4 million people and a population density of 538.8 inhabitants per km², mainly because Amman is the most attractive governorate for Jordanians and for those coming to Jordan from other countries, followed by Irbid Governorate with a population of 1.8 million people, and then Zarqa Governorate with a population of 1.4 million. Tafila Governorate which is considered to be the least populous governorate whose population is about 96 thousand people.

Table 2: Number of population and population density in the Kingdom for 2015

Governorate	Population (people)	Area (Km ²)	Population density (people/ km ²)
Central Region			
Capital	4007526	7,579	528.8
Zarqa	1364878	4761	286.7
Balqa	491709	1120	439.0
Madaba	189192	940	201.3
North Region			
Irbid	1770158	1572	1126.1
Mafraq	549948	26551	20.7
Jerash	237059	410	578.2
Ajloun	176080	420	419.2
Southern Region			
Karak	316629	3495	90.6
Tafeileh	96291	2209	43.6
Maan	144082	32832	4.4
Aqaba	188160	6905	27.2
Total of Kingdom	9531712	88793.5	107.3

Source: Department of Statistics, Jordan General Population and Housing Census, 2015

On the other hand, the population growth rate has reached about 3% in 2010 and increased to 9% during the years 2013 and 2014 and then dropped a little during 2015 to reach about 8%, according to demographic surveys for the Department of Statistics. The reason for the high growth rates is attributed to the influx of large numbers of refugees from Syria to the Kingdom which resulted in a marked decline in per capita real GDP index by 5.4% to JD 1,197.4, based on the Statements of the Central Bank of Jordan.

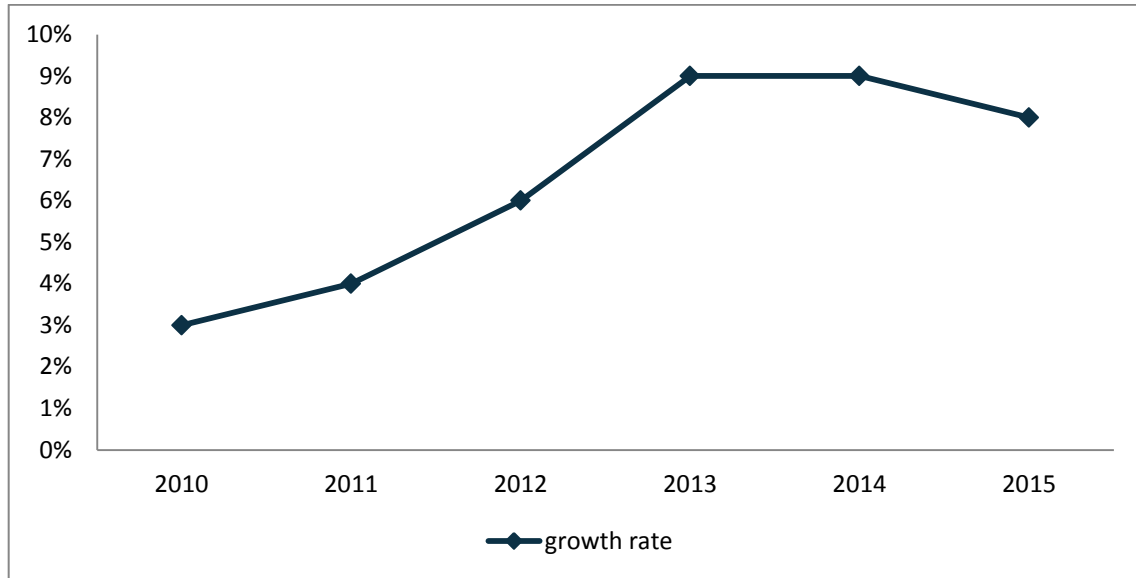
The unemployment rate among Jordanians also witnessed a rise by 1.1 percentage to reach to 13%, due to the structural imbalances that the labor market is suffering from and the acquisition of the low-paid foreign workers on a large number of new jobs in the economy, according to the Central Bank of Jordan.

Table 3: Number of population and population growth in the Kingdom, thousand

	2010	2011	2012	2013	2014	2015
population	6698.0	6993.0	7427.0	8114.0	8804.0	9531.7
growth rate	%3	%4	%6	%9	%9	%8

Source: Department of Statistics

Figure 2: population growth rate in the Kingdom



2.3 Economic Indicators in the Kingdom ¹

Countries across the Middle East are still suffering from instability and closure or partial closure of borders; including the borders of important markets for the Kingdom's products. These factors led to a decline in the performance of many of the economic sectors, including the external sector, national exports, touristic income, and Foreign Direct Investment (FDI), and they contributed to a slowdown in the economic growth to about 2.4% in 2015, compared to 3.1% in 2014. The growth achieved in 2015 came from growth across several economic sectors, especially in the finance, insurance, and real estate services; the transport, storage, and communications services; the mining industry; the manufacturing industry; and the agriculture sector. These sectors contributed a combined 1.8 percentage points (or 75%) of the growth rate achieved during 2015, reflecting the diversity of the economic growth sources in the Kingdom.

Additionally, the general price level registered a decline in the prices of oil, commodities, and other related services in the global markets. Therefore, the general price level, measured by the relative change in the average consumer price index deflated by 0.9% in 2015, compared to the inflation of 2.9% in 2014.

The budget deficit, after aid, increased by 1.2% to a record 3.5% of GDP, compared with 2.3% in the previous year. In addition, the Balance of Payments' Current Account recorded a deficit of 8.9% of GDP, compared with 7.3% in 2014. At the end of 2015, the net public debt amounted to 22,847.5 million Jordanian Dinars (85.8% of the GDP), with an increase of 5.0% of the GDP. However, the total public debt reached 24,876.5 million Jordanian Dinars (93.4% of GDP). This increase resulted from financing both the general budget deficit and the guarantees for loans for the National Electricity Company and the Water Authority, as well as the slowdown of economic growth during 2015. The indebtedness of the National Electricity Company and the Water Authority recorded 6.7 billion Jordanian Dinars at the end of 2015.

On the monetary and banking front, most monetary indicators experienced positive development in performance in 2015, primarily in the Central Bank's foreign reserves, which maintained comfortable levels that amounted to about \$14.2 billion. The dollarisation rate decreased, which reflected positive demand for Jordanian Dinars in comparison to other major foreign currencies. With regards to the activities of licensed banks, the outstanding balance of credit increased by 9.5%, to reach 21,103.5 million Jordanian Dinars at the end of 2015. The total deposits registered with licensed banks increased by 7.7%, to reach 32,598.5 million Jordanian Dinars at the end of 2015. The increase in deposits came as a result of the high dinar deposits, which increased by 2,001.4 million Jordanian Dinars (8.3%), and higher foreign currency deposits, which increased by 336.1 million Jordanian Dinars (5.4%).

¹ The Central Bank of Jordan

Furthermore, many of the external sector indicators registered a drop in performance in 2015 due to the deepening instability in the region and almost full closure of the borders with Iraq and Syria. However, the drop in oil prices in the global markets contributed to the decline in the Kingdom's imports bill for energy, as it dropped by 40.6%, which in turn contributed to a decline in total imports and the trade deficit by 11.4% and 14.0%, respectively. Thus, the Current Account, excluding aid, declined to 11.9% of GDP, compared to 12.4% in 2014.

The Current Account deficit increased after aid, to reach 2,365.6 million Jordanian Dinars (8.9% of GDP) in 2015, compared with a deficit of 1,851.7 million Jordanian Dinars (7.3% of GDP) in 2014. This decline is due mainly to the decline in total exports by 6.6% and the decline in surplus in the services account by 27.7%, as touristic income decreased by 7.1%, and the decline in the surplus in the current transfers account decreased as a result of reduced foreign aid.

Capital and financial accounts resulted in a net inflow of 1,593.7 million Jordanian Dinars in 2015, compared to 909.0 million Jordanian Dinars in 2014; this was due to the Kingdom's higher net obligations towards the outside world. Foreign Direct Investment registered a net inflow of 909.4 million Jordanian Dinars, and the reserved investment registered an inflow of 918.4 million Jordanian Dinars due to the Kingdom issuing Eurobonds that are worth \$2.0 billion in the global markets. The withdrawal of bank loans on behalf of the Central Bank increased the use of funds from the International and Arab Monetary Funds by 543.3 million Jordanian Dinars. This led to the registration of a surplus in the overall Balance of Payments of 328.7 million Jordanian Dinars during 2015, compared to a surplus of 1,550.7 million Jordanian Dinars during 2014.

According to the Central Bank of Jordan, the increased international investment at the end of 2015 showed an increase in the external net liabilities of the Kingdom, which reached 24,357.5 million Jordanian Dinars, compared with 22,578.8 million Jordanian Dinars at the end of 2014. This was due to an increase in the external balance of assets and financial liabilities for all of the economic sectors in the Kingdom, which reached to 18,657.9 million Jordanian Dinars and 43,015.5 million Jordanian Dinars, respectively, during 2015.

Table 4: main economic indicators 2011 to 2015 in millions of dinars

	2011	2012	2013	2014	2015
Population (millions)	6.993	7.427	8.114	8.804	9.532
Unemployment rate	12.9	12.2	12.6	11.9	13.0
Production and Prices					
GNP at current market prices	20,288.8	21,690.0	23,611.2	25,141.2	26,289.6
GDP at current market prices	20,476.6	21,965.5	23,851.6	25,437.1	26,637.4
The rate of growth in GDP at constant market prices (%)	2.6	2.7	2.8	3.1	2.4
The total national disposable income at current prices	23,743.5	24,774.9	28,424.5	30,302.1	30,234.7
The rate of growth in gross national disposable income at current prices (%)	4.7	-0.2	8.6	3.1	-2.4
Change in the index of consumer prices (%)	4.2	4.5	4.8	2.9	-0.9
The change in the GDP deflator (%)	6.4	4.5	5.6	3.4	2.3
Money and Banking					
Exchange rate of the Jordanian dinar to the US dollar	1.410	1.410	1.410	1.410	1.410
Money supply (P2)	24,118.9	24,945.2	27,363.4	29,240.4	31,605.5
Net foreign assets of the banking system	9,370.1	6,665.5	6,923.4	7,932.3	8,137.3
Net domestic assets of the banking system	14,748.8	18,279.7	20,440.0	21,308.1	23,468.2
Net debt of the government	6,701.4	9,461.3	10,494.8	10,473.9	11,386.4
Private sector debts (Residents)	14,925.0	15,953.6	17,222.5	17,852.8	18,704.5
Other factors ⁽¹⁾	-6,877.6	-7,135.2	-7,277.3	-7,018.5	-6,622.7
Deposits in dinars at licensed banks	19,119.1	17,711.1	21,003.0	24,013.1	26,014.5
Foreign currency deposits at licensed banks	5,258.8	7,258.6	6,590.2	6,247.9	6,584.0
Rediscount rate (%)	4.50	5.00	4.50	4.25	3.75
Treasury bills interest rate for 6 months (%)	3.232	3.788	-	-	-
Public Finance					
Total revenue and foreign aid	5,413.9	5,054.2	5,758.9	7,267.6	6,796.4
Ratio to GDP (%)	26.4	23.0	24.1	28.6	25.5
Total spending	6,796	6,878.2	7,077.1	7,851.1	7,722.9
Ratio to GDP (%)	33.2	31.3	29.7	30.9	29.0
Overall deficit/savings (on an accrual basis)	-1,382.7	-1,824.0	-1,318.2	-583.5	-926.5
Ratio to GDP (%)	-6.8	-8.3	-5.5	-2.3	-3.5
Net outstanding balance of the domestic public debt	8,915.0	11,648.0	11,863.0	12,525.0	13,457.0
Ratio to GDP (%)	43.5	53.0	49.7	49.2	50.5
Outstanding external public debt ⁽²⁾	4,486.8	4,932.4	7,234.5	8,030.1	9,390.5
Ratio to GDP (%)	21.9	22.5	30.3	31.6	35.3
Foreign Trade and Balance of Payments					
Current account	-2,098.8	-3,344.9	-2,487.7	-1,851.7	-2,365.6
Ratio to GDP (%)	-10.2	-15.2	-10.4	-7.3	-8.9
Trade balance (Deficit)	-6,261.7	-7,486.6	-8,270.1	-8,495.6	-7,249.3
Ratio to GDP (%)	-30.6	-34.1	-34.7	-33.4	-27.2
Commodity exports	5,684.5	5,599.5	5,617.9	5,953.6	5,558.3
Imports of goods (FOB) ⁽³⁾	11,946.2	13,086.1	13,888.0	14,449.2	12,807.6

	2011	2012	2013	2014	2015
Balance of services (net)	896.0	1,332.3	1,209.5	1,778.9	1,286.4
Income account (net)	-187.8	-275.5	-240.4	-295.9	-347.8
Current transfers (net)	3,454.7	3,084.9	4,813.3	5,160.9	3,945.1
Capital and financial account (net)	2,298.9	3,808.9	1,811.1	908.9	1,593.7
Direct foreign investment in Jordan (net)	1,055.0	1,074.3	1,281.2	1,426.7	905.1

Source: Monthly Statistical Bulletin, Central Bank of Jordan

1. Includes the debts of public and financial institutions and other factors, as shown in the Monetary Survey Agenda.
2. This represents the total balance of drawn loans, minus total repayments.
3. Does not include imports of non-resident entities.

2.4 The Jordanian Investment Environment

Investment Law No. 30 for 2014

Investment Law no. 30 for 2014 is considered an appropriate legislative framework to attract foreign investments and stimulate local investments. It is considered a competitor to other investment laws in the region because it contains many advantages, incentives, and guarantees, and it offers a range of incentives and benefits in and outside the Development and Free Zones. The law includes a series of public provisions, such as foreign investment guarantees (depositing and withdrawal of capital, investment management, and transfers) and the inadmissibility of the disbarment of investment property. The law offers provisions to settle investment disputes, protection, and encouragement of mutual investment agreements between the Kingdom and other countries.

The following shows the major incentives granted by the law:

❖ Incentives and Benefits outside the Development and Free Zones

- The production inputs for the industrial and crafts sectors are exempted from customs duties.
- The return of the general sales tax on the production inputs for the industrial and crafts sectors within 30 days.
- Production inputs and fixed assets of the industrial and crafts sectors are exempted from customs duties and are granted a reduction in general sales tax to 0%.
- Returning to the sales tax on the services needed to practice economic activity within 30 days.
- The goods that are necessary for the economic activities of the following sectors are exempted from customs duties and are subject to 0% general sales tax:
 - Agriculture and livestock, hospitals and specialised medical centres, hotels and touristic facilities, touristic entertainment and recreation centres, call centres, scientific research centres and laboratories, art and media production, convention centres and exhibitions, transfers and/or distributions and/or extraction of water, gas and oil derivatives, air transport, maritime transport, and railways.

❖ Incentives and Benefits inside the Development and Free Zones

- 5% income tax on the income generated from economic activity within the Development Zone.
- 5% income tax on income generated from economic activity in the industrial sector.
- Tax exemptions that are granted in the Kingdom on goods and services exports.
- Reduction of sales tax to 0% on goods and services that are used by the establishment in order to exercise its activity inside the Development Zone.
- 7% sales tax on specific services provided by a registered company in the zone when these services are consumed in the zone.

- Exemptions from customs duties except for a specified number of goods.

- ❖ **The Reduction of Income Tax in the Least Developed Areas for Regulation No. 44 for 2016**
 - The reduction of income tax in the least developed areas for Regulation No. 44 for 2016 was approved. It aims to create an attractive environment for investments that promote economic development through the reduction of income tax outside the Development Zones and in the least developed areas in the Kingdom. The regulation specified the areas that are considered least developed and identified the activities that are excluded from this reduction.
 - Under the provisions of Articles 4 and 5 of this regulation, the areas that were categorised as least developed and enjoy the reduction in income tax are divided into four categories; each category enjoys a reduction in income tax on their activities for a period of 20 years.
 - Category A includes the Northern Valley District, Deir Alla District, Shouneh Al-Janoubieh District, the Southern Valley District, Rweished District, the Northern Desert District, the North Western Desert District, Al-Azraq Province, Al-Jiza District except for the borders of the new Al-Jiza municipality, Al-Moakar District except for the borders of Al-Moakar municipality, and the Governorate of Aqaba except for the Aqaba Special Economic Zone. The reduction rate for this category is 100%.
 - Category B includes the Governorates of Maan, Tafileh, Karak, and Ajloun. The reduction rate for this category is 80%.
 - Category C includes the Governorates of Jarash, Mafraq, and Irbid except the borders of the Greater Irbid Municipality. The reduction rate for this category is 60%.
 - Category D includes the Governorates of Madaba, Balqa, Amman except for the Greater Amman Municipality, and Zarqa except for the borders of Zarqa Municipality and Russaifeh Municipality. The reduction rate for this category is 40%.

❖ **Trade and Free Trade Agreements**

The most important agreements are:

- Jordan joining the World Trade Organisation in 2000, which led to the opening of the markets of 150 countries for Jordanian exports in goods and services, and provided new opportunities of access to other countries within a clear and transparent environment of laws, regulations, and procedures.
- A series of regional trade agreements, such as the Jordan Partnership Agreement with the European Union, Agadir Agreement, Free Trade Arab Agreement, the free trade agreement between Jordan and the European Free Trade Association, and the adoption of the Euro-Mediterranean simplification of the rules of the Origin System, which includes the decision to simplify the rules of the origins of Jordanian products between Jordan and the European Union came into effect on July 19, 2016, and will remain in effect until December 31, 2026.

- A series of bilateral trade agreements with many countries, such as the free trade agreement between Jordan and the United States of America, the Qualified Industrial Zones Agreement, the free trade agreement between Jordan and Singapore, the free trade agreement with Turkey, the free trade agreement with Canada, and many other agreements.
- Jordan has signed more than 35 agreements with Arab and foreign countries in order to prevent double taxation between Jordan and these countries, thus protecting investors' rights.
- The Agreement of Promotion and Protection of Investments and the Movement of Capital between the Arab Countries was signed in 2000 with 11 Arab countries who are members of the Arab Economic Unity Council, in order to establish an appropriate environment for investments and economic cooperation between investors in the Arab countries, thus pushing and stimulating investment activities by providing encouragement and mutual protection for Arab investments.

Human Development Report for 2015

The Human Development Report that was issued by the United Nations Development Program in 2015 showed that Jordan fell 3 points to number 80. Please note that Jordan's place on the Human Development Report index value has improved slightly.

Global Competitiveness Report

The Kingdom's rank has improved by one point in the Global Competitiveness Report for the year 2016/2017, at 63 out of 138 countries compared to 64 out of 140 countries in the 2015/2016 report. It is considered an insignificant improvement, especially because of the reduction in the number of countries participating in this year's report. Amongst the Arab countries, Jordan was ranked after the United Arab Emirates, Qatar, the Kingdom of Saudi Arabia, Kuwait, and Bahrain, who were ranked 16, 18, 29, 34, and 39, respectively.

Doing Business Report

In the Doing Business Report that was issued by the World Bank Group, Jordan is still ranked 118, up one rank from the 2016 report, because of the variation in the performance of the different sub-indicators. Jordan ranked ninth among the Arab countries; the United Arab Emirates was ranked first among the Arab countries at 26, followed by Bahrain at 63 and Oman at 66.

2.5 The Economic Environment in the Short and Medium Term

Risks analysis implemented by BMI indicates that the Jordan's political and economic risks in the short and medium term are less than the overall average of the world and the Middle East. The state's risks and the operational risk are estimated to be within the acceptable levels. The international institutions' forecasts point out that the economic and foreign trade indicators are expected to achieve acceptable rates of growth with the exception of the continued increase in internal and external indebtedness.

Table 5: Assessment of short and long-term risks

	Long term		Short term		Operational risks	State risks
	political	Economic	political	economic		
Jordan	63.1	39.2	66.6	46.2	58.7	55.4
Turkey	60.2	49.4	58.4	56.9	55.9	56.1
Egypt	53.3	45	52.4	48.7	42.9	47.5
Lebanon	45.8	54	55.4	53.5	44.2	49.5
West Bank and Gaza	33.1	38.1	32.2	36.5	32.5	34.3
Syria	22.9	24.4	22.4	23.6	29.3	26.1
Regional average	49.4	46.9	51.2	48.7	46.6	48.3
global average	64.1	50.7	61.3	51.9	49.8	54.6

Source: the economy and state risks, IHS, 15/09/2016

Table 6: The most important key economic indicators 2016-2020

Indicator	2016	2017	2018	2019	2020
The growth rate of GDP	2.6	2.7	2.8	3.2	3.1
GDP (in USD billions)	39.6	42.1	44.8	47.8	50.9
Population (In millions)	9.8	10.1	10.4	10.7	11.0
Consumer Price Index (% change)	-0.7	1.8	3.3	4	3.2
Exports (in USD billions)	7.3	7.6	8.2	8.8	9.6
Imports (in USD billions)	18.3	19.2	20.1	21.3	22.8
Foreign direct investment, the net value (in USD billions)	1.5	1.5	1.6	1.6	1.7
Foreign direct investment, the net value (% of GDP)	3.7	3.7	3.6	3.4	3.3
Foreign exchange reserves (in USD billions)	13.9	14.9	15.7	16.8	17.7
Total external debt (in USD billions)	24.4	27.8	30.7	33.7	36
Total external debt (% of GDP)	61.6	66	68.6	70.4	70.6
Total external debt (% of foreign currency earnings)	127.3	138.3	143.6	147.5	147.8

Source: the economy and state risks, IHS, 15/09/2016

3. Market Study

3.1 Project Description

The project involves the establishment of a private hospital in Zarqa – Zarqa City - for the purpose of providing therapeutic services to patients in Zarqa Governorate and neighboring areas. The hospital will include all of the following:

- A total number of 111 beds.
- Four surgery rooms which are fully equipped for performing minor, medium, major and complicated (heart and brain) surgeries, in addition to Caesarean deliveries.
- Two rooms for vaginal delivery.
- Intensive and coronary care rooms (7 beds out of the total number of beds)
- Obstetrics and Gynecology' floor, which contains 23 rooms and 35 beds (out of the total number of beds), the floor includes a section for Internal medicine and surgery services, including caesarean delivery cases.
- Men's floor, which includes 17 rooms and 29 beds (out of the total number of beds), divided into internal medicine and surgery departments.
- Children's floor, which includes 15 rooms and 26 beds (out of the total number of beds), divided into internal medicine and surgery departments. In addition to premature children department, which includes 10 beds for newborns (out of the total number of beds) and 6 incubators for premature infants.
- Ambulance and emergency unit (8 beds).
- Family Medicine Clinic.
- Department of radiology.
- Comprehensive medical laboratory.
- Pharmacy.
- Physiotherapy
- Respiratory Therapy.
- Nutrition and kitchen department.
- Hospital services (laundry, tailor, housekeeping etc ...)
- Consultants Building (Outpatient clinics)
- Services provided to visitors (cafeteria, lounge, gift shop, etc ...).

3.2 Expected Services Description

The expected project services include:

- Accommodation services in single, double, triple rooms and suites.
- Emergency and ambulance services.
- Minor, medium, major and complicated surgeries which includes:
 - Diagnostic surgery
 - Bone and Joint Surgery
 - Various Pediatric Surgeries
 - Anesthetic Cardiac Surgery
 - Kidney and urinary tract surgery
 - Eye surgery
 - gynecological surgery
 - otorhinolaryngological surgery
 - Maxillofacial Surgery
 - Thoracic Surgery
 - etc.
- Department of Internal Medicine and its branches, which includes:
 - General Internal Medicine
 - Brain and Neurology.
 - Hematology & Oncology
 - Rheumatism & arthritis
 - Endocrinology & Diabetes
 - Kidney disease
 - Allergy & Immunology
 - Skin Diseases
 - Gastroenterological & Hepatic Diseases
 - Pulmonary Diseases
 - Intensive Care
 - etc.
- Department of radiology, which includes:
 - Magnetic Resonance Imaging (MRI).
 - Computed Tomography (CT)
 - Plain and colored X-ray
 - Ultrasonography
- Laboratories, which include:
 - Biochemistry laboratories
 - Hormones and drugs calibration laboratory
 - Microbiology and bacteria laboratory

- Vaccines and immunology laboratory
- Hematology laboratory
- Genetics Laboratory
- Blood Bank and reception and blood donation department.
- etc.
- Pharmacy: provides its services of drugs and medical supplies to the visitors of the hospital, emergency, family medicine departments and other visitors of the outpatient clinics, who did not receive treatment inside the hospital.

3.3 Health sector in Zarqa Governorate

The health sector in Zarqa Governorate is considered one of the sectors, whose indicators are still low compared to their rates all over the Kingdom, as it is noted that the number of primary health care centers in Zarqa Governorate has reached up to 109 centers, representing 7% of the numbers in the Kingdom. The population rate for each health center amounts to 12522 persons, which is much higher than the average of the Kingdom, which amounts to 2062 persons.

Table 7: The number of health care centers in Zarqa Governorate

	Comprehensive health center	Primary health center	Sub-health center	Maternity Center	Dental clinic	total	Individual /center
Total of Zarqa Governorate	9	29	6	36	29	109	12522
The kingdom	99	378	198	460	402	1537	6202
Zarqa Ratio of the Governorate to the kingdom	9.1%	8%	3%	8%	7%	7%	202%

Source: Ministry of Health, 2015 Annual Statistical Report.

As is the case in the indicators of the primary health care services sector, the hospitals sector is suffering from similar problems related to the increasing pressure on services and the lack of cadres, as there are eight hospitals in Zarqa Governorate, which contain 1315 beds, including five private hospitals, which contain 315 beds and three public hospitals containing 1000 beds.

It is noted that the number of beds per 10,000 people in Zarqa Governorate amounts to 10 beds, an average which is lower than the average all over the Kingdom, which amounts to 13 beds. Furthermore, this average decreases significantly, particularly in the beds of the private sector hospitals, which reaches to about half of the average all over the Kingdom, the matter which can be attributed either to the weak purchasing power of the population or to the poor health care quality and its lack of the specialties required in private hospitals, as well as the governorate's nearness to Amman and the people's access to specialized medical services provided by the service providers in the capital.

It is noted that the employees rate to the number of beds in Zarqa Governorate hospital is almost the lowest in the kingdom, as it amounts to 0.5, while the average all over the Kingdom is 3.1.

Table 8: Number of hospitals and beds in Zarqa Governorate

	Number of Ministry of Health hospitals	Number of the beds in the Ministry of Health hospitals	Number of the Royal Medical Services hospitals	Number of the beds in the Royal Medical Services hospitals	Number of private sector hospitals	Number of the beds in private sector hospitals	Total hospitals	Total beds
Total of Zarqa Governorate	2	674	1	326	5	315	8	1315
The kingdom	31	5077	12	2551	59	4350	102	13115
percentage of the Governorate to the kingdom	6%	15%	8.3%	13%	8.4%	7%	7.8%	10%
The number of beds per 10,000 people in Zarqa Governorate		4.9		2.4		2.3		10
The number of beds per 10,000 people in the kingdom		4.8		2.7		4.4		13

Source: Ministry of Health, 2015 Annual Statistical Report

During the field visits, it was found that there was dissatisfaction with the health sector in the Governorate except for Russeifa District and Dhail Sub-District. Studies indicated that the deterioration of health sector in Zarqa is due to the lack of health care facilities and their poor distribution, the lack and migration of qualified manpower, the high cost of private health sector, the regression of health coverage level, the lack of health insurance for every citizen, the lack of medical services and the inadequate number of comprehensive health centers, the matter which led to the regression of health system and poor health care services. Therefore, the establishment of a private hospital which provides all health care services found in the private sector in the Kingdom and at a high quality has become a matter of urgency.

Manpower of the sector

The number of employees in the health sector in Zarqa Governorate is about 5,872 employees constituting a percentage of 3.2% of the total employees of Zarqa Governorate, as it is noted that the number of employees in the health sector in Zarqa Governorate is less than the average of manpower in the health sector in the Kingdom, which reflects the need to pay attention to the sector and provide it with the adequate health cadres.

Table 9: The number of employees in the health sector

Sector	Zarqa Governorate	The kingdom	Percentage of the Governorate to the kingdom
Number of employees in the health sector	5,872	69,902	8.4%
Total employees number	183,507	1,398,029	13.13%
Percentage of employees in the health sector of total employees	3.2%	5%	

Source: Department of Statistics, Employment and Unemployment, calculations of the study team.

3.4 Work Volume in health Sector in Zarqa Governorate

1. Health Centers

The following table shows the volume of work in health centers in Zarqa Governorate, as it is noted that the treatment average provided for every citizen by the health centers of the Ministry of Health amounted to 0.8 in 2015.

Table 10: Treatment rate by health centers of the Ministry of Health in Zarqa in 2015.

Item	Zarqa Governorate	The kingdom	Ratio of the governorate to the kingdom
population	1364878	9531712	14%
Total treatments per doctor	1102085	10549815	10%
Treatment average for each citizen	0.8	1.1	

Source: Ministry of Health, 2015 Annual Statistical Report.

2. Hospitals

First: The Ministry of Health (MOH) Hospitals

The following tables show the work volume in the Ministry of Health hospitals operating in Zarqa Governorate.

Table 11: The work volume in the Ministry of Health hospitals in Zarqa Governorate for the year 2015

Hospital name	Number of beds	Number of visitors	Number of sick days	Occupancy rate (%)	Average Patient's stay rate (day)
Al Zarqa Public Hospital	496	29360	107334	%71.4	3.7
Prince Faisal Hospital	178	15600	43812	%67.4	2.8
Total of Zarqa	674	44960	151146		
Percentage of the kingdom's total	%13.68	%12.17	%13.09		
Kingdom's total *	4927	369538	1154942	%65.1	3.1

Source: Ministry of Health, 2015 Annual Statistical Report, calculations of the study team.

*Statistics of the kingdom's total do not include all hospitals as there are hospitals of which no data was available in the year 2015.

It is noted through the Ministry of Health figures that some of the Ministry of Health hospitals in Zarqa Governorate lack to the departments of Chest Diseases, special surgery, plastic and burn surgery, pediatric surgery, nuclear medicine, intensive care for children, and heart surgery. Most of these services are currently covered by private hospitals in the governorate, and this is an opportunity for the new hospital.

With regard to human cadres in the Ministry of Health hospitals, the rate of employees per bed stood at 2.17 in 2015.

Table 12: The number of employees in the Ministry of Health hospitals (Zarqa Governorate) in 2015.

Item	Al Zarqa Governmental Hospital	Prince Faisal Hospital	Total of Zarqa	% (Al Zarqa)	Average per bed (Al Zarqa)
Specialist Doctor	79	52	131	8.97%	0.19
Resident Doctor	112	0	112	7.67%	0.17
General practitioner	13	19	32	2.19%	0.05
Dentist/specialist	7	2	9	%0.62	0.01
Veterinarian	0	0	0	%0.00	0.00
pharmacist	17	6	23	%1.58	0.03
male/ female registered nurse	336	136	472	%32.33	0.70
Associate nurse	109	40	149	%10.21	0.22
Registered midwife	26	33	59	%4.04	0.09

Item	Al Zarqa Governmental Hospital	Prince Faisal Hospital	Total of Zarqa	% (Al Zarqa)	Average per bed (Al Zarqa)
Male/female assistant nursing	26	24	50	%3.42	0.07
Male/female nursing aide	2	0	2	%0.14	0.003
Engineer	5	1	6	%0.41	0.01
clerk	6	8	14	%0.96	0.02
accountant	18	16	34	%2.33	0.05
Other occupations	203	164	367	%25.14	0.54
Total	959	501	1460	100%	2.17

Source: Ministry of Health, 2015 Annual Statistical Report, calculations of the study team

With regard to surgeries, they are classified into three types: minor, medium and major surgeries. The major surgeries ratio at the level of the Kingdom amounts to 43.84%, while the medium surgeries ratio amounts to 25.7%, and the minor surgeries ratio amounts to 30.45%, which are very close ratios compared to the Government hospitals ratios in Zarqa Governorate.

Table 13: Surgeries classified according to the type of surgery in 2015.

Surgery type	Al Zarqa Governmental Hospital	Prince Faisal Hospital	Total of the kingdom	Percentage (of the kingdom)	Zarqa's percentage of surgeries	Zarqa's percentage of the kingdom
Minor	2515	763	27118	30,45%	%30.15	%12.09
Medium	1826	1065	22888	25,7%	%26.59	%12.63
Major	3229	1476	39041	43.84%	%43.27	%12.05
total	7570	3304	89047	100%	100%	12.21%

Source: Ministry of Health, 2015 Annual Statistical Report, calculations of the study team

Table 14: Deliveries and their types in the hospitals of the Ministry of Health in 2015

Hospital name	Vaginal delivery	Caesarean delivery	Vacuum delivery	Forceps delivery	Total
Al Zarqa Governmental Hospital	5012	1770	10	13	6805
Prince Faisal Hospital	4239	977	14	1	5231
total of Zarqa Governorate	9251	2747	24	14	12036
Percentage of the total of all types (Zarqa)	76.86%	22.82%	0.20%	0.12%	100%
Percentage of the total of kingdom	16.66%	13.43%	9.49%	73.68%	15.78%
Total of kingdom	55527	20451	253	19	76250
percentage	72.82%	26.82	0.33%	0.02%	100%

Source: Ministry of Health, 2015 Annual Statistical Report, calculations of the study team

Table 15: Recipients Of ambulance and emergency services in the hospitals of the Ministry of Health in 2015

Hospital name	emergency	Non-emergency	Total	Percentage of emergency cases
Al Zarqa Governmental Hospital	14536	9116	23652	61.5%
Prince Faisal Hospital	50833	150878	201711	25.2%
total of Zarqa Governorate	65369	159994	225363	29.01%
Percentage of the total of kingdom	5.25%	9.23%	7.57%	
Total of kingdom	1244605	1732910	2977515	41.8%

Source: Ministry of Health, 2015 Annual Statistical Report, calculations of the study team

3. Laboratories

Laboratories provide their services through performing the medical tests necessary for the diagnosis and assessment of medical conditions, and accordingly identifying the necessary treatment based on the results of these tests, the following table shows the number of laboratory tests made in the hospitals of the Ministry of Health in Zarqa Governorate.

Table 16: The number of laboratory tests of the hospitals of the Ministry of Health in Zarqa Governorate in year 2015

Test	Al Zarqa Governmental Hospital	Prince Faisal Hospital	total of Zarqa Governorate	Percentage
Biochemistry	232237	390250	622487	75.80%
Special chemistry	2843	0	2843	0.35%
Serological reactions	13875	22034	35909	4.37%
Hematology	33607	71931	105538	12.85%
Lactation & parasites	13620	29059	42679	5.20%
General bacteria	2251	6453	8704	1.06%
Other tests	3112	0	3112	0.38%
Total	301545	519727	821272	100%

Source: Ministry of Health, 2015 Annual Statistical Report, calculations of the study team

4. Radiology

Radiology is one of the diagnostic medical services used for diagnosing the patient's condition and which is used medically and therapeutically to examine teeth and bones, detect the bones' fracture and detect if there are any solid objects and/or tumor in the human body by radiographing the relevant parts. In 2015, the number of radiographs at Prince Faisal Hospital has amounted to 68,698, while the Radiology services were not available in Al Zarqa Governmental Hospital that year as it was transferred to the new location. It noteworthy that there is no MRI scan in the hospitals of the Ministry of Health in Zarqa Governorate.

Second: the private sector hospitals

There are five private hospitals in Zarqa Governorate, as previously mentioned, which have a capacity of up to 315 beds.

The following tables show the work volume in the private hospitals in the Zarqa Governorate, according to 2015 Annual Statistical Report of the Ministry of Health. knowing that all data contained in the report was collected from only four hospitals as no data was received from Al Dhulyl Hospital. The total number of beds for these four hospitals amounts to 283 beds.

Table 17: The work volume in the private hospitals in Zarqa Governorate in year 2015

Private sector hospitals	Number of beds	%	Number of visitors	Number of sick days	Occupancy rate (%)	Average Patient's stay rate (day)	Number of delivery cases
Governorate of Zarqa	283	8.37	28104	48939	%43.9	1.74	5355
Total of kingdom	3381	100	272433	537715	%83	1.97	43128
Average number / bed (Zarqa)			99.31	172.93			18.92
Average number / bed (Kingdom)			80.58	159.04			12.76

Source:

- Ministry of Health, 2015 Annual Statistical Report
- calculations of the study team

Table 18: The number of employees in private hospitals of Zarqa Governorate in 2015

Health occupations	Zarqa	Percentage of occupations (Zarqa)	Kingdom	Percentage of kingdom	Zarqa Per bed	Kingdom Per bed	Percentage of total occupations (kingdom)
Doctor	55	6.07%	1414	%3.89	0.194	0.42	%9.28
pharmacist	41	4.53%	434	%9.45	0.145	0.13	%2.85
Male/female registered nurse	127	14.02%	2988	%4.25	0.449	0.88	%19.62
Male/female assistant nurse	198	21.85%	1549	%12.78	0.700	0.46	%10.17
Registered midwife	30	3.31%	228	%13.16	0.106	0.07	%1.50
Other occupations	455	50.22%	8617	%5.28	1.608	2.55	%56.58
Total	906	100%	15230	5.95%	2.88	3.5	100%

It is worth mentioning that the number of delivery cases in all private hospitals of the kingdom reached up to 43,128 cases and the number of newborns is 46,173, while the number of delivery cases in private sector hospitals in Zarqa Governorate amounted to 5325 cases, representing 12.3% of the total delivery cases all over the Kingdom.

Table 19: The number of surgeries in the private sector hospitals in Zarqa Governorate based on the type of surgery in 2015

Type of surgery	Zarqa Governorate/private sector	Kingdom/private sector	Percentage (%)	Average per bed (Zarqa)	Average per bed (kingdom)	Percentage of total surgeries (Zarqa)
General Surgery	5131	38743	13.24%	18.13	11.46	%39.88
Heart Bypass Surgery	7	2225	0.31%	0.02	0.66	%0.05
Brain and Nervous System	145	4340	3.34%	0.51	1.28	%1.13
Orthopedics	740	13246	5.59%	2.61	3.92	%5.75
Plastic Surgery and Burn Reconstruction	140	5439	2.57%	0.49	1.61	%1.09
Cardiothoracic Surgery	2	780	0.26%	0.01	0.23	%0.02
Urology	1169	8671	13.48%	4.13	2.56	%9.09
Pediatric Surgery	428	3965	10.79%	1.51	1.17	%3.33
Otorhinolaryngology Surgery (ENT)	1471	12990	11.32%	5.20	3.84	%11.43
Eye surgery	48	14104	0.34%	0.17	4.17	%0.37
Obstetrics and Gynecology Surgery	3526	28027	12.58%	12.46	8.29	%27.41
Oral and Maxillofacial Surgery	58	1266	4.58%	0.20	0.37	%0.45
others	0	4	0%	0.00	0.001	%0.00
total	12865	133800	9.62%	40.84	30.76	100%

Overview of main competitors

This part of the study shows the main competitors of private hospitals in Zarqa Governorate.

Hospital Name	Qasr Shabeeb Hospital
Location	Zarqa – opposite to Qasr Shabeeb / near the commercial center
Number of Beds	70
General Description	The hospital commenced its works in 1985. The hospital provides basic services, such as the departments of Radiology, Laboratory, Pharmacy, Obstetrics, Intensive Care (eight rooms), Surgery (3 rooms), Dental Center, Dialysis (contains 12 device), Emergency department, and first aid services, which are provided around the clock at the hospital entrance. The four emergency rooms contain eight beds for emergency treatment. In addition to Accounting, Information and Medical Records departments, besides a floor containing Prematurity, Infants, Pediatrics and Tomography departments.
Provided Services	<ul style="list-style-type: none"> ▪ Emergency ▪ Department of Surgery ▪ Department of Endoscopy ▪ Dialysis ▪ Obstetrics ▪ Intensive care ▪ Respiratory therapy ▪ Physical Therapy and Rehabilitation ▪ Medical Care Divisions/ Floors (Women, Men, Children) ▪ Radiology and Diagnostics ▪ Medical Laboratories ▪ Pharmacy

Hospital Name	Al Hikma Modern Hospital
Location	Zarqa – Autostrad, next to the new travel compound
Number of Beds	60
General Description	The Hospital commenced its works in 1986. The hospital provides basic services, such as the departments of Radiology, Laboratory, Pharmacy, Obstetrics, Intensive Care , Surgery, Special Surgery (4 rooms), Dialysis (contains 20 devices), Emergency department, and first aid services around the clock In addition to Accounting, Information and Medical Records Departments, besides a floor containing Prematurity, Infants, Pediatrics and Tomography departments.
Provided Services	<ul style="list-style-type: none"> ▪ Emergency ▪ Department of Surgery & Special Surgery ▪ Department of Endoscopy ▪ Dialysis ▪ Obstetrics ▪ Intensive Care ▪ Respiratory Therapy ▪ Physical Therapy and Rehabilitation ▪ Medical Care Division/ Floors (Women, men, children) ▪ Radiology and Diagnostics ▪ Consultants Building

Hospital Name	Jabal Al Zaitoon Hospital
Location	Zarqa - Autosrad before the Military College Bridge, opposite to Jabal Tarek neighborhood
Number of Beds	123
General Description	Jabal Al Zaitoon Hospital was established in 1994 in Zarqa City, the hospital contains outpatient building which has worked on approaching a large group of medical consultants and specialists who transfer many of their patients to the hospital.
Provided Services	<ul style="list-style-type: none"> ▪ Emergency ▪ Department of Surgery & Special Surgery ▪ Department of Endoscopy ▪ Dialysis ▪ Obstetrics ▪ Intensive Care ▪ Respiratory Therapy ▪ Physical Therapy and Rehabilitation ▪ Medical Care Division/ Floors (Women, Men, Children)

	<ul style="list-style-type: none"> ▪ Radiology and Diagnostics ▪ Outpatient Building (Specialists)
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Hospital Name	Al Razi Hospital
Location	Zarqa, Yajouz, Awajan near the Northern Mountain and Prince Faisal Hospital - Razi district -Razi Street
Number of Beds	30
General Description	One of the oldest hospitals in Zarqa. The hospital commenced its work in 1984, then it was refurbished after it moved to its current location, which serves the cities of Rusaifa and Yajouz.
Provided Services	<ul style="list-style-type: none"> ▪ Emergency ▪ Department of Surgery ▪ Dialysis ▪ Obstetrics ▪ Intensive care ▪ Medical Care Division/ Floors (Women, Men, Children) ▪ Radiology and Diagnostics

Hospital Name	Al Dhulyl Hospital
Location	Al Dhulyl - Zarqa
Number of Beds	32
General Description	The hospital was founded in 2008. It includes various specializations, and located near Al Hashimiyya, Sukhna, Zarqa City, and Al Hallabat.
Provided Services	<ul style="list-style-type: none"> ▪ Emergency ▪ Department of Surgery ▪ Obstetrics ▪ Intensive care ▪ Medical Care Division/ Floors (Women, Men, Children) ▪ Radiology and Diagnostics

With regards to the three major hospitals which have the greatest market share, the meetings with medical consultant specialists have shown the following:

– Qasr Shabeeb Hospital

- The only hospital which has an opened MIR machine.
- The hospital has a preferential agreement with Al-Own Al-Tibee Society, with affordable rates in order to cover the treatment of Syrian refugees residing in Zaatari refugee camp, the matter which raised the occupancy rates therein.
- There is a reluctance of medical consultation specialists toward dealing with the hospital for many reasons, foremost of which is being existed in the commercial

center and in a crowded area where no car parking, the matter which impedes their movement, and limits speed access to their patients and returning to their clinics

- Al Hikma Modern Hospital

The only hospital, at present, which is seeking to establish an In Vitro fertilization (IVF)

- Jabal Al Zaitoon Hospital

It is the largest hospital, particularly after the recent expansion and the creation of an outpatient building. The hospital is desirable by medical consultants and specialists because it is near to their clinics, whether the clinics at the autostrad or the ones within the commercial center. It also offers incentives to doctors who rent at the outpatient building and who in turn transfer most of their patients to the hospital.

Demand Analysis

A field survey was carried out on a sample of the families in Zarqa Governorate amounting up to 236 families. Their opinions and satisfaction of health care services provided by private hospitals in the Governorate were measured, in addition to their degree of knowledge and preferences of private hospitals in Zarqa, the results were as follows:

Table 20: The degree of knowledge and preferences of private hospitals in Zarqa Governorate

Hospital	Degree of Knowledge (%)	Degree of Preferences (%)
Qasr Shabeeb Hospital	67%	59%
Al Razi Hospital	55%	57%
Jabal Al Zaitoon Hospital	70%	68%
Al Hikma Modern Hospital	75%	70%
Al Dhulyl Hospital	26%	40%

Source: the field survey implemented by the study team

It is evident from the above table that Al Hikma Modern Hospital comes to the forefront, followed by Jabal Al Zaitoon Hospital, then Qasr Shabeeb Hospital and Al Razi Hospital, and finally comes Al Dhulail Hospital.

With regard to the criteria for selection of the hospital, the reputation and goodwill of the hospital came first as shown in the following table.

Table 21: Criteria for selection of the private hospital

critereion	rank	relative importance (%)
Hospital's reputation and goodwill	1	74
Desire of the treating physician	2	66
Reputation of hospital doctors	3	65
The insurance company (the hospital is covered)	4	61
Offering facilities payments	5	57
Couple's decision	6	54
recommendation by a relative or a friend	7	31

Source: Field Survey of the study team

The field survey showed that 12% of the beneficiaries go to private hospitals in Amman because the supervising physician prefers so, or it happened that the patient was closer to Amman that time, or the wife prefers to give birth in private hospitals in Amman due to dissatisfaction of the private hospitals in Zarqa.

With respect to the degree of satisfaction of services, there is a high general satisfaction, particularly with regard to the way in which the nursing staff, resident doctors, and administrators behaved by 90%, 86% and 88%, respectively, followed by satisfaction from the quality of service by 82%, while the satisfaction from the provision of car parking came at the bottom of the list by 48%.

With respect to the degree of accommodation / favorite room, the results were as follows: 3% for suites, 36% for first class rooms, 41% for second class, and 20% for third class. These ratios will be guided by upon designing the hospital building (Technical Study).

3.5 Marketing Strategy

Target Market

The project targets the following customers:

- Jordanians patients, especially from Zarqa Governorate and neighboring regions
- Nearby accident injuries, especially traffic accidents
- Patients who are covered by the private health insurance

Expected Products and Services

The expected project services include the following:

- Accommodation services for patients
- Emergency and ambulance services
- Family Medicine
- Surgical services
- Delivery and premature birth services
- Radiology services
- Laboratory services
- Pharmaceutical Services (Pharmacy)
- Other services for visitors such as the cafeteria and gift shop
- Outpatient Building (consultants clinics)

Expected Price

The Pricing strategy for the project includes the following:

Table 22: Expected prices for services provided by the hospital

Description	Price (JD)
Accommodation services for patients per night	Ranging from (20-60) (depending on class / room)
emergency and ambulance services	25
Surgery Services	Ranging from (100 - 3500) depending on the surgery type
Delivery and premature birth services	Ranging from (300 - 1000)
Radiology Services	70% above the cost of radiology supplies
Laboratory services	70% above the cost of laboratory standards and chemicals
Selling and giving medicines Services	35% above the cost of medicine
Outpatient building	JD 25/ m ² and special incentives can be given to the famous doctors/ consultants

Promotion

The Promotion strategy for the project requires the following:

- Focus on famous specialist doctors in the Zarqa Governorate and its surroundings, either to attract them to Outpatient Building or at least push them to send their patients to the hospital and use its facilities. The management can focus on the high level of quality and modern services provided by the hospital exclusively in Zarqa Governorate.
- Focus on insurance companies and give them the advantages of lower prices and payment facilities. But it is important to highlight the benefits enjoyed by the hospital in comparison with its competitors and how these benefits will drive its customers to dispense with going to private hospitals in Amman and thus reduce the bills paid to serve the persons insured thereby.
- Design a web site and use social media-tools. It will be a good idea to create a special application about the hospital (APP).
- Make brochures for the hospital and its services
- Advertise the hospital in local newspapers and other media at the beginning of the project
- Put up billboards on the main streets and roads leading to the hospital

Sales

The project's sales strategy requires that we:

- Receive patients directly
- Conclude contracts with insurance companies
- Work to conclude contracts with local and international associations and organizations

Services

The services strategy requirements to:

- Have doctors and nurses with extensive experience and good reputation (in the hospital and in the Outpatient Building)
- Focus on the quality of services and used materials
- Get all the relevant quality and accreditation certificates (locally and internationally)
- Maintain permanent and ongoing hygiene
- Respect the rules of hygiene and cleanliness and public safety
- Maintain the equipment on an ongoing basis
- Take care of the proper appearance of the employees
- Take care of the good and decent treatment for patients and their families or their companions
- Take care of providing the service for patients quickly
- Being credible in dealing with patients

3.6 The Expected Market Share

Field survey conducted by the study team on services recipients in hospitals has shown that a significant proportion of them are forced to go to Amman to get this service, as follows:

- 17% of the patients go to the public sector's hospitals in Amman such as the hospitals of (The Ministry of Health, the University Hospital and Military Hospitals) and this comes mostly as a transfer from a public hospital in the Governorate
- 12% of the patients go to private hospitals.
- 2% of the patients go to a public hospital with more specialization, such as King Hussein Cancer Center and the University of Jordan Hospital.(these patients are non-insured or have private insurance)
- 12% of those who are insured through the public sector go to private hospitals to get better services

The reasons were numerous behind going to hospitals in Amman, most notably the presence of a physician who follows up on the case of the patient in Amman (42%), the desire to get better and higher quality of service, that the required specialties are available in Amman, that the patient has confidence in the hospitals in Amman particularly in respect of the complicated surgeries such as open heart surgeries and catheter (42%), that presence of the patient in Amman during treatment (10%) which came in the second place, and that the Amman hospitals are included in the health insurance (6%) which came in the third place

The Jordan Hospital came in the first place (26%), The Al Khalidi Hospital & Medical Center and Al-Essra' Hospital came in the second place (16%), the Jordan University Hospital as a specialist hospital (13%), then came Istiklal Hospital and the King Hussein Cancer center (6%), and finally came each of the following hospitals: the Islamic Hospital, the Istishari Hospital, the Specialty Hospital, Gardens Hospital, Al-Amal Hospital, Hiba Hospital and Al-Shmeisani Hospital came in last place (3%), knowing that Al-Essra' Hospital and Istiklal Hospital are the nearest hospitals to Zarqa City.

For the purpose of calculating the growth of demand for the new hospital's services, the above field survey results shall be taken into account, where it is indicated that a significant proportion of those who go to the Amman hospitals shall fall within the share of the proposed hospital, should the services which are unavailable in the hospitals in Zarqa are available in the new hospital such as the IVF.

The information about the current work load in the private hospitals in Zarqa will be used to determine the share of the new hospital. With respect to the premature birth services and intensive and coronary care services, the available data by the Ministry of Health hospitals will be employed and a rate of one third as indicated in the following table shall fall within the share of the private hospitals. The following table indicates the ratio of the patients' stay (No. of sick days) in the Ministry of Health hospitals compared to that in the private Hospitals as (3:1).

Table 23: Comparison of the workload in the hospitals of Zarqa Governorate for 2015

The medical section	Admission				surgeries		Delivery Cases	
	Number	%	Number of sick days	%	Number	%	Number	%
Ministry of Health	369 538	92.93%	151 146	75.54%	10874	45.81%	12036	69.21%
private sector	28104	7.07%	48,939	24.46%	12865	54.19%	5355	30.79%
Grand Total	397 642	100.00%	200 085	100.00%	23739	100	17391	100

The following table shows the estimated growth in the demand for key services of private hospitals between 2015 and 2020, and the adoption of the average growth rate in the population for the last 5 years, 2.82%, and the share of the new hospital. It is expected that the start of the project will be in 2020, so the expected market share for the first year of the project is as follows:

Table 24: The estimated demand for key services of the private hospitals in Zarqa Governorate and the share of the new hospital

Description	2015	2016	2017	2018	2019	2020	The number of cases in the first year	Market share for the first year
Number of delivery cases	5355	5506	5661	5821	5985	6154	1100	18%
Number of cases of premature birth	733	754	775	797	819	842	143	17%
Intensive and Coronary care	760	781	803	826	849	873	165	19%
Entries	28104	28897	29,711	30,549	31411	32,297	5500	17%
Surgeries *	12865	13580	14,171	14852	15553	16275	3025	19%

* The percentage of the growth in the number of surgeries in the hospitals of the Ministry of Health and the Private sector together was calculated, and after excluding the number of the hospitals of the Ministry of Health the number of surgeries in 2020 was estimated.

The following table shows the volume of the demand for the new hospital services and its market share for the first ten years of the project life cycle.

Table 25: The volume of the demand for the proposed hospital services and expected market share

Description	First year	Second Year	Third Year	the fourth year	fifth year	Sixth Year	Sevent h year	The eighth year	Ninth year	The tenth year
The number of beds	111	111	111	111	111	111	111	111	111	111
Number of delivery cases	1100	1210	1331	1,464	1611	1772	1949	2144	2358	2594
Number of cases of premature birth	143	157	173	190	209	230	253	279	307	337
The number of intensive and coronary care cases	165	182	200	220	242	266	279	293	308	323
The number of entries	5500	6050	6655	7321	8053	8858	9301	9,766	10.254	10.767
The number of surgical operations	3025	3328	3660	4026	4429	4872	5115	5371	5640	5922
The number of cases of emergency and family medicine	15,000	18,000	21,600	25.920	31.104	34.214	37.636	41.399	45.539	50.093
Market size (number of cases) *	56441	58,033	59,669	61,352	63,082	64,861	66,690	68,571	70,504	72,493
The total number of cases (new hospital) *	9933	10926	12019	13221	14543	15997	17,597	19,357	21292	23421
market share *	18%	19%	20%	22%	23%	25%	26%	28%	30%	32%

* Without calculating cases of emergency and family medicine because the number of these cases is big and its revenue is small compared with other cases which will exaggerate the market share illogically

4. Technical Study

4.1 The designed Project Capacity

As we previously mentioned, the design capacity of the project is 111 beds, which requires an estimated hospital premises area of 5,600 m² and buildings for outpatient clinics area at about 3600 m² and the purchase of a plot of land of 5000 m². The hospital building consists of seven floors, where each floor has an area of 800 m² and their details are shown in the following table.

Table 26: Details of the hospital building

Floor	The Most Important Details
Third basement (B3)	Laundry, Sewing room, maintenance, housekeeping, Mortuary
The second basement (B2)	Kitchen and dining halls for staff
The first basement (B1)	Surgery rooms, delivery rooms, recovery room, and intensive and coronary care rooms, as well as the disinfectants
Ground floor (GF)	Reception and emergency, radiology, pharmacy, laboratory, physical therapy, administration, accounting
first floor	Women (internal medicine, and surgery)
second floor	Men (internal medicine, and surgery)
Third Floor	Children (internal medicine, surgery, premature birth)

The following table shows the details of the rooms and the number of beds in the three main floors.

Table 27: Number of rooms and beds, according to the type and degree of residence on each floor

Degree	wing		First		Second		Third		Total	
	No. of rooms	No. of rooms	No. of rooms	No. of rooms	No. of rooms	No. of rooms	No. of rooms	No. of rooms	No. of rooms	No. of rooms
first floor	4	4	10	10	6	12	3	9	23	35
second Floor	3	3	5	5	6	12	3	9	17	29
Third Floor	2	2	5	5	5	10	3	9	15	26
Total	9	9	20	20	17	34	9	27	55	90

The details of the above table were based on the survey results and after decreasing of the third degree rooms in order to increase the total number of suites considering recommendations of a sample of doctors in Zarqa and ensure that the available number of rooms for each degree meets the minimum patient needs.

With regard to Outpatient Department it has been designed to consist of six floors, each with 600 m². The two basement floors have been allocated for parking for the cars of the specialists who rented the clinics, hospital directors and department heads. The area of the unit/ clinic is about 55 m² so that the four floors can include forty units/clinic, knowing that

future expansion is possible by building additional floors should all the floors are used by specialists, and it is advisable that the family medicine to be located in the ground floor.

In general expanding the hospital whether at the level of the already existing floors or by building additional floors has been taken into account. In addition, we can make use of the available space by building adjacent building according to the need.

4.2 The Required Fixed Assets

It is expected that the number of beds reaches 111 beds to meet the expected workload. In order to reach a logical estimate of the costs of the equipment and supplies required for the hospital, a group of experts, suppliers of devices and medical equipment and supplies have been consulted. They unanimously said that the expected cost of the establishment of a private hospital is measured by the cost per bed, that is, (100-150 thousand JD) considering medium⁺ quality level. Since the costs of the land, buildings, transportation, information technology and solar power system have been accurately pinpointed the expected cost to the rest of the hospital equipment is up to about 70 thousand dinars per bed (including the beds of children with the least cost). The following table shows the total cost of fixed assets, which amounted to 14.02 million JDs.

Table 28: Total cost of the fixed assets of the Hospital and the Outpatient Building

Item	Unit	Price (JD)	Value (JD)
Ground m ²	5000	250	1,250,000
Hospital buildings m ²	5600	450	2,520,000
outpatient Buildings m ²	3600	250	900,000
Equipment (average per bed)	111	70,000	7.77 million
Transportation Vehicles	3	20,000	60,000
IT	1	100,000	100,000
Solar Energy System	-	-	1,400,000
Other	-	-	20,000
Total			14,020,000

*The numbers have been estimated based on survey results.

The following table shows the most important details of the devices and equipment required to equip the hospital.

Table 29: the most important details of the devices and equipment required to equip the hospital.

Description	Number
A fully equipped surgery room, with at least one equipped with an endoscopy devise	2
A fully equipped delivery room	4
fully equipped pre-delivery room (4 beds)	1

Description	Number
A fully equipped recovery section (8 beds)	1
Newly born children beds/ coats	10
Fully equipped Incubator for premature babies	6
A fully equipped Intensive Care Unit (ICU) and Coronary Care Unit (CCU)	7 beds (one bed for children)
Women's section (23 rooms with 35 beds)	35 beds
Men's section (17 rooms with 29 beds)	29 beds
Children's section (15 rooms with 26 beds)	26 beds
Fully equipped Emergency department	8 beds
Equipping and furnishing the Family Medicine Department (2 clinics, a nursing room equipped with a bed, pressure measurement devices and computer for data recording , a counter for records and place for one nurse per doctor)	
A fully equipped fixed and mobile Radiology equipment Laboratory (CT, MRI, X-Ray, Ultrasound) for the entire hospital's needs	
Respiratory therapy after the Caesarean (IPPP)	4
Respirator (for recovery and the ICU and CCU)	3
Department of Physiotherapy (integrated)	
Emergency trolley	9
medication trolley	9
large sized Disinfectants	2
An average sized Fertility and Embryology (IVF) Laboratory	1
Full automatic washing machines (big size)	2
Small Sewing Workshop	1
Mortuary	1
Equipped kitchen and dining hall to serve up to 155 employees	
Furniture for the Administration and Departments	
The necessary piping and fittings for the medical gases	
5 Large elevators for the hospital and 2 elevators for the Outpatient clinics	

The following table shows the general and special requirements for the private hospitals which have to be observed in the process of development and execution of the project.

Table 30: general and specific requirements for hospitals

Statement	Conditions
Building	<ul style="list-style-type: none"> ▪ Be independent from any other building and have a large entrance for vehicle access and another for exit ▪ Have a refuge ▪ Be equipped with backup generators self operational to meet the necessary requirements of the building and approved by the Committee ▪ Be equipped with its own water tanks which must be sufficient to the hospital consumption of water at a minimum rate of 3½ m 3 per bed per day ▪ Be equipped with fuel tanks sufficient for a minimum of 2 weeks consumption ▪ Allow that all places prepared for use in the hospital including toilets and showers are equipped with adequate natural or artificial lighting and ventilation. ▪ Have adequate central heating ▪ Have Plumbing pipelines sufficient for drinking water, hot water, and pipelines for disposal of wastewater ▪ Have available means to collect and dispose of the liquid and dry waste ▪ Have sufficient numbers of toilets and showers, a toilet per 6 beds, while private rooms with one bed or two beds shall have a shower and a toilet per room, taking into account that the toilets and showers of the private rooms shall not be included in the said rate. ▪ Have the means of firefighting and emergency stairs inspected and approved by the General Directorate of Civil Defense. ▪ The area of the hospital and hospital parks should not be less than three times the area of the ground floor of the building with the exception of maternity hospitals where the campus must not be less than two dunums in a public hospital and one dunum in the private hospital. ▪ Have the residence of the shift doctor (on duty) inside the hospital campus.
Ward Area	<p>The area of a ward with two detached rooms with one bed in either of the two rooms for the patient shall not be less than 20 m².</p>
Room	<ul style="list-style-type: none"> ▪ The area of excellent first class room with one bed shall not be less than 15 m². ▪ The area of first class room with one bed shall not be less than 12 m². ▪ The area of second class room with two beds shall not be less than 12 m². ▪ The area allocated for one patient in the second class room with three beds and more shall not be less than 6 m². ▪ The net minimum height of the room in the hospital shall be:

Statement	Conditions
	<ul style="list-style-type: none"> ▪ Rooms: 2.70 m ▪ Kitchens: 2.35 m ▪ Bathrooms and Toilets: 2.10 m ▪ Each patient room in the hospital shall be Overlooking a balcony, a yard or Skylight from one side.
Stairs	<ul style="list-style-type: none"> ▪ The hospital shall have two detached staircases, one leading to the main street and the other to a an open space the minimum width for each is as follows: <ul style="list-style-type: none"> – Less than 50 beds – The first stair shall be 1.52 m – The second stair shall be 0.90 m – Above 50 beds: The first stair shall be 1.40 m – The second stair shall be 1.00 m
Lift	The hospital shall be equipped with lifts if the building exceeds two floors, provided that the number of lifts shall be in line with the building size and the number of beds in accordance with the committee's recommendations.
Toilet area	The area of the toilet and bathroom shall not be less than 2 m ²
Main paths	The main lanes shall not be less than 2 m wide.
Parking for vehicles	The hospital shall have parking areas within the building area or in its site according to the appropriate engineering conditions and standards that gurantees the free movement of vehicles and parking at a rate of one vehicle per three beds
Cleanliness	<ul style="list-style-type: none"> ▪ The Director of the hospital shall ensure cleaning, bleaching and painting the hospital from outside in a manner acceptable by the committee. ▪ 10% of the total area of the hospital shall be planted with trees ▪ The use of basements in the hospital, if any, shall be limited to the necessary general services in the hospital such as the car parking, shelters, storage rooms, the water well, central heating rooms, cooling rooms and electricity conversion stations. ▪ Liquid waste and used water should be connected to public sewage, if any, and in case there are no public sewage network, the water should be connected to a precipitate and decomposition compound.
Specialist Hospital	<ul style="list-style-type: none"> ▪ The number of beds shall not be less than 15 beds ▪ It must have the devices and equipment set out in Annex No. (1) or the items determined by the Committee for each speciality hospital.
	<ul style="list-style-type: none"> ▪ The Minister shall, upon the recommendation of the committee, issue the instructions on the devices, equipment and the staff required for the hospital, and amend same and amend appendix No. (1) hereof. ▪ The hospital shall use additional beds temporarily in the event of accidents and emergency cases, where the use of such beds shall end as soon as the emergency case is treated.
Employees	<ul style="list-style-type: none"> ▪ The hospital's administration <ul style="list-style-type: none"> – Director of the hospital: This means that the hospital is required to

Statement	Conditions
	<p>have a full time employed and qualified director to whom the patients shall have access to easily.</p> <ul style="list-style-type: none"> ▪ The employees' uniform shall consist of a jacket, trousers and a tie. ▪ Adequacy: This refers to the status of the employees in terms of physical fitness and healthiness where the employment shall require submitting health certificate to prove same. ▪ Scientific qualifications: The hospital shall appoint the graduates of the medical studies who are scientifically qualified. ▪ The number of the employees shall be sufficient. ▪ It shall be necessary that the hospital have a dressing place (cloth changing) for workers with an area commensurate with their number with the availability, of a sufficient number of bathrooms and means of hygiene in terms of drying towels, soap and toilet paper.

4.3 The Required Human Resources

The Ministry of Health Report of 2015 states that the rate of employees in the private sector is up to 2.1 employees per bed. The following table shows the required human resources for the project. The project needs (229) employees with total salaries of (JD 1,309,440) (operational: JD 816,600 and administrative: JD 492,840).

Table 31: The Required Human Resources and their Costs for the Project

Description	Monthly Salary (JD)	Annual Salary (JD)	Number of Employees	Total annual Salary
A) the costs of the Medical Administration				
Medical Director (Technical)	4,000	48,000	1	48,000
Resident doctor	1,000	12,000	10	120,000
Head of nursing staff	1,000	12,000	1	12,000
Emergency Nursing	350	4,200	14	58,800
General / family practitioner	1,000	12,000	2	24,000
Family Medicine Clinic Nursing	350	4,200	3	12,600
Surgery Nursing	400	4,800	12	57,600
Midwife	400	4,800	6	28,800
Nursing Staff for Intensive Care Unit (ICU) and (CCCU) Coronary Care Unit	400	4,800	8	38,400
Anesthesia specialist	3,000	36,000	1	36,000
anesthesia technicians (nurses)	400	4,800	2	9,600
Officer in Charge of the shift (women's floor)	400	4,800	4	19,200
Nurse (women's floor)	300	3,600	11	39,600
Officer in Charge of the shift (men's floor)	400	4,800	4	19,200
A male Nurse (mens floor)	300	3,600	11	39,600
Officer in Charge of the shift (Children's floor)	400	4,800	4	19,200
Nurse (children's floor)	300	3,600	11	39,600
Officer in Charge of the (premature birth) shift	400	4,800	4	19,200
Premature birth Nurse	300	3,600	4	14,400

Description	Monthly Salary (JD)	Annual Salary (JD)	Number of Employees	Total annual Salary
Radiologist (radiology specialist)	3,000	36,000	1	36,000
Radiology Technician (nurse)	500	6,000	4	24,000
Pharmacy manager (Pharmacist)	900	10,800	1	10,800
Assistant Pharmacist	300	3,600	8	28,800
Medical Laboratory director	1,000	12,000	1	12,000
Laboratory technician	350	4,200	8	33,600
IVF Laboratory Director	1,300	15,600	1	15,600
IVF Laboratory Technician	350	4,200	4	16,800
Physiotherapist	1,200	14,400	1	14,400
Physiotherapy Technician	350	4,200	3	12,600
Respiratory therapy technician	350	4,200	1	4,200
Total	24,700	296,400	146	864,600
B) the costs of General Administration				
General manager / director of the hospital	5,000	60,000	1	60,000
Secretary	400	4,800	2	9,600
Director of Quality Assurance	2,000	24,000	1	24,000
Total	7,400	88,800	4	93,600
C) the Financial and Administrative Management costs				
Administrative Manager	1,500	18,000	1	18,000
HR	350	4,200	2	8,400
Driver	350	4,200	4	16,800
Public safety and security	350	4,200	3	12,600
Office boy	220	2,640	2	5,280
Supervisor of housekeeping and hygiene	400	4,800	1	4,800
Laundry and housekeeping	220	2,640	4	10,560
tailor	250	3,000	1	3,000

Description	Monthly Salary (JD)	Annual Salary (JD)	Number of Employees	Total annual Salary
Dietitian/ Nutrition	1,000	12,000	1	12,000
kitchen supervisor (master chef)	800	9,600	1	9,600
Cook	400	4,800	6	28,800
Waiter	250	3,000	12	36,000
Maintenance department head	500	6,000	1	6,000
Maintenance technician	350	4,200	2	8,400
Call center	250	3,000	2	6,000
Administrative Officer (Receptionist, computer, records ...)	300	3,600	6	21,600
Financial Manager	1200	14400	1	14400
Accountant	350	4200	10	42000
Officer (Receptionist, computer, records ...)	300	3600	12	43200
Procurement and warehouses employee	400	4800	4	19200
Total	9,740	116,880	76	326,640
D) marketing department costs				
Marketing and customer relationship management director	1,200	14,400	1	14,400
Marketing Officer (Insurance companies and major companies)	450	5,400	1	5,400
Marketing Officer (doctors)	400	4,800	1	4,800
Total	2,050	24,600	3	24,600
Total indirect costs (b + c + d)	19,190	230,280	83	444,840
Grand Total	43,890	526,680	229	1,309,440

The following table also shows the general job description of the functions required for the project.

Table 32: The General Job Description of the Job Functions Required for the Project.

Job	Job Description
General Manager	The general manager of the hospital is required to plan, organize, coordinate and control all matters related to the internal management of the hospital, participate in determining the hospital's policy and all work-related matters, review and oversee the analysis process of the reports submitted to the management, study and develop solution for the problems that arise, supervise the employees technically and administratively and raise their efficiency and observe the application of the instructions of occupational health and safety.
Technical Director	The technical director shall manage and follow-up work related to the center technically, distribute business in a scientific method, develop a clear policy for work, prepare and equip the hospital in terms of medical and non-medical equipment's and tools, develop the work procedure and services provided, follow-up and supervise the training programs conducted at the hospital and ensure the controls and regulations in force.
Head of operations (surgeries) section	<p>The Head of the Operations Section shall:</p> <ul style="list-style-type: none"> ▪ Set the goals, objectives, policies and procedures for the operations (surgeries) section ▪ Set and propose the budget of the operations (surgeries) section and ensure the compliance with this budget. ▪ Set the statistics and reports on the section and conserve and submit periodic reports to the management of the hospital whenever requested. ▪ Manage, coordinate and oversee all surgical, clinical and administrative activities in the section. ▪ Ensure the preparation of the operation rooms table and the presence of the health team members. ▪ Coordinate with the nursing head in the operations unit in respect of the provision of the nursing staff and the operations – related problems and the conduct of the employees ▪ Ensure the commitment of all personnel in the operations unit to the required performance quality level and the infection prevention control programs. ▪ Follow upon the latest developments in the field of medicine and surgery. ▪ Participate in the administrative and medical committees in hospital.
Nurse	The nurse is required to:

Job	Job Description
	<ul style="list-style-type: none"> ▪ Handle matters related to sterilization actively and quickly. ▪ Prepare the patient to perform the specified procedures and assist in the evaluation of the patient's case. ▪ Assist the doctor in conducting the examinations and any procedures related to the direct care for the patient. ▪ Provide nursing care for the patient in the operation room, evaluate the results, consult the other specialists and amend the procedures related to nursing care whenever this is required to provide the best care for the patient. ▪ Follow up the health condition of the patient and communicate any changes to the right person. ▪ Observe the number of gauzes, surgical needles and instruments in accordance with the applicable surgical procedures to avoid losing any of them during the operation and record this in the prescribed form. ▪ Ensure continued care for the patient through all Phases of the operation by submitting a report including the significant information to the nurse in charge of the next treatment Phase. ▪ Provide psychological support to the patient, show interest in the comfort of the patient and maintain privacy during all Phases of the surgical procedures.
Ambulance and Emergency Care	<p>The Ambulance and Emergency Care Officer is required to:</p> <ul style="list-style-type: none"> ▪ Plan, organize, direct and control all the activities and services provided by the Ambulance and Emergency Care Department in the Center. ▪ Provide continuous supervision for the emergency cases. ▪ Develop the Work Procedures Manual for the Department and upgrade it from time to time. ▪ Prepare the continuous training and education program for the workers. ▪ Determine and follow up on providing the department's need for medical and non-medical instruments and equipment ▪ Distribute the manpower to cover the work in the department. ▪ Develop the department services to cope with the developments in the field. ▪ The membership in the relevant medical and technical committees ▪ Implement the Quality Control procedures related to the Department. ▪ Supervise the application of the principles and rules of occupational safety.

Job	Job Description
Radiology Technician	<ul style="list-style-type: none"> ▪ Submit the periodical reports required to the technical services managr. <p>The radiology technician is required to:</p> <ul style="list-style-type: none"> ▪ Inform the patients or the nurses of all the instructions required for any examination such as that the patient must be examined before taking breakfast or has to take a certain medicine, etc. ▪ Direct the patient to the dressing room to take off his clothes and all dark things that may absorb light and negatively affect the examination. ▪ Ensure receiving the radiological examination request referred by the treating doctor, determine the part to be examined and the patient position for radiological examination ▪ Help the patient to be in the required position on the imaging table. ▪ Adjust the x-rays tube, identify the X-rays beam and imaging factors required for each position, choose the size and type of the film for each test, put the letter and number referring to the patient on the clipboard and print patient's name and date of examination and technical number on the film. ▪ Clean the films Savers (cassettes) of any impurities sticking to them, clean gusset once a week and change the damaged plates with a new ones. ▪ Oversee the cleanup of the X- ray machine that he runs and ensure its soundness and report any malfunctionality. ▪ Does minor repairs in radiology device such as changing fuses etc. ▪ Processing the Radiograph made by him or other radiology assistants in accordance with the work schedule in the radiology department, prepare chemicals for Processing of the Radiograph, and cleaning the Radiograph Processing Equipment daily. ▪ Examine the film that after processing of radiograph it and decide over the functionality of the film in terms of imaging and radiographing and if the film is good display the film before the doctor to decide thereon, however, if it is not functional he shall have to repeat the imaging process. ▪ Do the X- ray for the admitted inpatients and operation rooms. ▪ Arrange the films and according to the X- ray applications separately, and then submit the films to the radiology specialist to write the reports ▪ Schedule the films so that they shall be ready when submitting the monthly or annual reports and arrange and archeive the

Job	Job Description
The laboratory technician	<p>films</p> <p>The laboratory technician to perform the following tasks:</p> <ul style="list-style-type: none"> ▪ Draw the samples written in the medical report and save same in a scientific method recommended within the laboratory. ▪ Prepare and process samples separately and take medical and laboratory precautions in dealing with samples prepared with precision. ▪ Have interest in the application of quality rules in handling the laboratory instruments used in the medical analysis so as to reach the highest quality levels in measurements. ▪ Provide laboratory results with precision and review same under the supervision of the supervisor. ▪ Record the results after reviewing them in the reports allocated for each analysis separately.
Financial Director	<p>The financial Director shall:</p> <ul style="list-style-type: none"> ▪ Participate in the preparation of the budget for the hospital by coordination with the different Departments. ▪ Follow upon the preparation, review, amendment and adoption of regulations and administrative management of the administrative unit, which includes the procedures, rules, regulations, organizational structure, job functions, job descriptions and the authority matrix. ▪ Create the financial plans pertaining to the hospital and monitors the status of policies and procedures related to the financial plans and make sure they comply with laws and regulations. ▪ Prepare the budget estimates, including salaries, allowances, operational expenses, maintenance, operation programs, projects under implementation and new projects. ▪ Follow-up comparisons between accounts in coordination with the Operations Department.
Human Resources Director	<p>The Human Resources Director shall:</p> <ul style="list-style-type: none"> ▪ Provide all HR services such as recruitment, evaluation, prepare performance and promotions plans, etc, and work to prepare human resources' policies, rules, procedures and programs. ▪ Carry out the procedures and policies to ensure the staff presence, pay their financial dues accordingly and record the leaves of the employees. ▪ Oversee the preparation and updating of the data base of all vacant posts in the hospital in order to attract employees with

Job	Job Description
	<p>the qualifications that fit the job requirements.</p> <ul style="list-style-type: none"> ▪ Follow upon the reception of the applications incoming to the employment sector and oversee, sort and select the applications that meet business needs
IT manager	<p>The Director of Information Technology shall:</p> <ul style="list-style-type: none"> ▪ Develop and maintain the information technology systems used in the hospital to ensure the technical support of these systems, and follow-up information technology systems budget to ensure that the actual expenses do not exceed the estimated amounts. ▪ Oversee the performance of the operating systems used in the hospital, and implement regular maintenance and when necessary to keep them ready for use by the staff and doctors. ▪ Supervise the IT network performance, and ensure that it works efficiently and that is it maintained on a regular basis and when needed to remain ready for use by the staff and doctors. ▪ Ensure taking all necessary measures to secure the IT systems and information from loss or misuse, and to ensure the safe use of equipment and data according to the approved policies and procedures. ▪ Follow upon the developments in the field of information technology systems and seek to apply them in the hospital by updating and modifying the systems in use, or by the development of new systems to ensure the highest quality.
Warehouse Manager	<p>The warehouse manager shall:</p> <ul style="list-style-type: none"> ▪ Develop the procedures, rules and regulations that ensure the implementation of the drawn plans, policies and strategies. ▪ Follow-up operations of receipt, checking and documenting all materials, supplies and medical instruments that are purchased in accordance with the policies and procedures in the hospital. ▪ Ensure encoding all materials, medical supplies, tools and spare parts that are purchased by the approved coding system in the hospital. ▪ Ensure the effective storage of the materials according to the hospital procedures manual, and contribute to the development of these procedures to increase work efficiency. ▪ Control and monitor inventory levels in warehouses to ensure availability of the necessary quantities constantly and make sure to seek medical material levels in order to be provided in a timely manner. ▪ Oversee the inspection of inventory operations and ensure management commitment to the implementation of policies and

Job	Job Description
	procedures in place.

4.4 The Required Licenses

The Following Table Shows the licenses required from different bodies for the implementation of the Project.

Table 33: The Licenses Required for the Project

Statement	Analysis
company registration and Licensing	<ul style="list-style-type: none"> ▪ Ministry of Industry and Commerce ▪ Ministry of Health
Operation	<ul style="list-style-type: none"> ▪ Health, social security, income and sales tax.

4.5 Project Timetable

The following table shows the timeline for the implementation of the projects which is estimated at 24 months as follows:

Phase	First Year (in Months)												Second Year (in Months)											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Studies																								
Approvals, registration and Licensing of the company																								
Construction and Cleaning																								
Equipping and Furnishing																								
Employment and Commissioning																								
Total Duration	24 months																							

5. Financial Study of the Project

5.1 Financial Assumptions

The following table illustrates the financial assumptions of the project.

Table 34: the financial assumptions of the project

Item	Assumption
Inflation rate	3%
Financing	Equity constitutes 75% of the investment and loans constitute 25%
Interest rate	9%
Working capital	6 months of annual costs
Pre-operating expenses	1% of investment
Tax rate	20%
exemptions	Fixed assets are exempted from customs and tax exemptions on the project, as this project will be considered as an investment project to get these exemptions
The cost of medical supplies	5% of revenues
Drugs (Medicine)	65% of drugs revenues
Laboratory materials	30% of laboratory revenues
Radiology materials	30% of radiology revenues
Food beverage and related suppliers	7% of total revenues
Cleaning and sterilizing materials	1% of total revenues
Staff benefits	35% of salaries
The annual increase in salaries	7%
Staff incentives	5% of total revenues
Assets depreciation rate	4%-20% of the asset value
Maintenance	5% of the investment
Electricity & water	0.2% of total revenues
Other operating costs	1% of the investment
Accounts receivable	16% of total revenues
Inventory	3% of total revenues

5.2 Investment Cost

The project's Investment cost is estimated at JD 14.6 million distributed to fixed assets of JD 14 million, and working capital and pre-operating expenses of about JD 575 thousand. The following table shows the project's Investment cost.

Table 35: the project's investment cost

Item	Value (in thousand JD)
Fixed assets	14,020
Per-operating expenses	100
Working capital	475
Total	14,595

5.3 Financing

The project will be financed by the partners' shares (shareholders) in the company by 75% which is estimated at about JD 10.95 million, while the other 25% of the project investment cost will be financed through bank loans of about JD 3.65 million. The following table shows the financing schedule for to the implementation of the project.

Table 36: Project financing schedule

Item	Value (in thousand JD)	%
Equity	10,946.5	75%
Loans	3,648.8	25%
Total	14,595	100%

5.4 Revenues

The following table shows the total revenues of the project, where it is noted that the revenues in the first year amounts to about JD 4.2 million, and increased to reach up to JD 11.3 million in the tenth year, due to occupancy rates growth.

Table 37: project revenue

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue- Deliveries										
Number of beds	20	20	20	20	20	20	20	20	20	20
Occupancy rate	%26	%29	%32	%35	%38	%42	%46	%51	%56	%62
Number of days	365	365	365	365	365	365	365	365	365	365
Total cases	1,100	1,210	1,331	1,464	1,611	1,772	1,949	2,144	2,358	2,594
Number of daily cases	3.0	3.3	3.6	4.0	4.4	4.9	5.3	5.9	6.5	7.1
The average cost per patient	500	515.0	530.5	546.4	562.8	579.6	597.0	614.9	633.4	652.4
Total revenue	550,000	623,150	706,029	799,931	906,322	1,026,862	1,163,435	1,318,172	1,493,489	1,692,123
Revenue- Pediatrics & Prematurity										
Number of beds	6	6	6	6	6	6	6	6	6	6
Total cases	143	157	173	190	209	230	253	279	307	337
The average cost per patient	825	850	875	901	929	956	985	1015	1045	1076
Total revenue	117,975	133,666	151,443	171,585	194,406	220,262	249,557	282,748	320,353	362,960
Occupancy rate	19.59%	21.55%	23.70%	26.07%	28.68%	31.55%	34.70%	38.17%	41.99%	46.19%
Revenue- ICU, CCU										
Number of beds	7	7	7	7	7	7	7	7	7	7
Total cases	165	182	200	220	242	266	279	293	308	323
The average cost per patient	1440	1483.2	1527.7	1573.5	1620.7	1669.4	1719.4	1771.0	1824.1	1878.9
Total revenue	237,600	269,201	305,005	345,570	391,531	443,605	479,758	518,859	561,146	606,879
Occupancy rate	19.37%	21.31%	23.44%	25.79%	28.37%	31.20%	32.76%	34.40%	36.12%	37.93%
Revenue- Outpatient Clinics										
Number of beds	10	10	10	10	10	10	10	10	10	10
Number of days	300	300	300	300	300	300	300	300	300	300
Total cases	22,498	24,748	27,223	29,945	32,940	36,233	39,857	43,843	48,227	53,049
The average cost per patient	-	-	-	-	-	-	-	-	-	-
Total revenue	0	0	0	0	0	0	0	0	0	0
Revenue- Admissions										

**Pre-Feasibility Study
A Private Hospital- Zarqa**

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Number of beds	70	70	70	70	70	70	70	70	70	70
Occupancy rate	%37.46	%41.20	%45.32	%49.85	%54.84	%60.32	%63.34	%66.51	%69.83	%73.32
Number of days	365	365	365	365	365	365	365	365	365	365
Total cases	5,500	6,050	6,655	7,321	8,053	8,858	9,301	9,766	10,254	10,767
Number of daily cases	15.1	16.6	18.2	20.1	22.1	24.3	25.5	26.8	28.1	29.5
The average cost per patient	150	154.5	159.1	163.9	168.8	173.9	179.1	184.5	190.0	195.7
Total revenue	825,000	934,725	1,059,043	1,199,896	1,359,482	1,540,294	1,665,827	1,801,592	1,948,422	2,107,219
Revenue- Admissions & Surgeries										
Number of beds	43	43	43	43	43	43	43	43	43	43
Occupancy rate	%42	%45	%47	%50	%53	%56	%60	%63	%67	%67
Number of days	365	365	365	365	365	365	365	365	365	365
Total cases	3,000	3,180	3,371	3,573	3,787	4,015	4,256	4,511	4,782	5,068
Number of cases	8	9	9	10	10	11	12	12	13	14
The average cost per patient	600	618.0	636.5	655.6	675.3	695.6	716.4	737.9	760.1	782.9
Total revenue	1,800,000	1,965,240	2,145,649	2,342,620	2,557,672	2,792,466	3,048,815	3,328,696	3,634,270	3,967,896
Revenue- Surgeries										
Number of beds	70	70	70	70	70	70	70	70	70	70
Occupancy rate	%36	%39	%43	%47	%52	%57	%60	%63	%66	%70
Number of days	365	365	365	365	365	365	365	365	365	365
Total cases	3,025	3,328	3,660	4,026	4,429	4,872	5,115	5,371	5,640	5,922
Number of cases	8	9	10	11	12	13	14	15	15	16
The average cost per patient	650	669.5	689.6	710.3	731.6	753.5	776.1	799.4	823.4	848.1
Total revenue	1,966,250	2,227,761	2,524,053	2,859,753	3,240,100	3,671,033	3,970,222	4,293,795	4,643,740	5,022,204
Revenue - Emergency and Family Clinic										
Number of days	365	365	365	365	365	365	365	365	365	365
Total cases	15,000	18,000	21,600	25,920	31,104	34,214	37,636	41,399	45,539	50,093
Number of cases	41	49	59	71	85	94	103	113	125	137
The average cost per patient	15	15.5	15.9	16.4	16.9	17.4	17.9	18.4	19.0	19.6

**Pre-Feasibility Study
A Private Hospital- Zarqa**

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Total revenue	225,000	278,100	343,732	424,852	525,117	594,958	674,087	763,741	865,319	980,406
Revenues										
Deliveries & pediatrics	667,975	756,816	857,472	971,516	1,100,728	1,247,124	1,412,992	1,600,920	1,813,842	2,055,083
ICU, CCU	237,600	269,201	305,005	345,570	391,531	443,605	479,758	518,859	561,146	606,879
Outpatient Clinics	-	-	-	-	-	-	-	-	-	-
Admissions	825,000	934,725	1,059,043	1,199,896	1,359,482	1,540,294	1,665,827	1,801,592	1,948,422	2,107,219
Surgeries	1,966,250	2,227,761	2,524,053	2,859,753	3,240,100	3,671,033	3,970,222	4,293,795	4,643,740	5,022,204
Emergency and Family Clinic	225,000	278,100	343,732	424,852	525,117	594,958	674,087	763,741	865,319	980,406
Total operating revenue	3,921,825	4,466,603	5,089,305	5,801,587	6,616,958	7,497,013	8,202,887	8,978,907	9,832,468	10,771,791
After subtracting operating costs	(1,568,730)	(1,786,641)	(2,035,722)	(2,320,635)	(2,646,783)	(2,998,805)	(3,281,155)	3,591,563 ()	(3,932,987)	(4,308,716)
Net operating revenue	2,353,095	2,679,962	3,053,583	3,480,952	3,970,175	4,498,208	4,921,732	5,387,344	5,899,481	6,463,075
Drug revenue	588,274	669,990	763,396	870,238	992,544	1,124,552	1,230,433	1,346,836	1,474,870	1,615,769
Laboratory revenue	400,026	455,593	519,109	591,762	674,930	764,695	836,694	915,849	1,002,912	1,098,723
Radiology revenue	400,026	455,593	519,109	591,762	674,930	764,695	836,694	915,849	1,002,912	1,098,723
Physical Therapy revenue	117,655	133,998	152,679	174,048	198,509	224,910	246,087	269,367	294,974	323,154
Outpatient Clinics rental revenue	60,000	60,000	60,000	60,000	60,000	66,000	66,000	66,000	66,000	66,000
Other revenue	235,310	267,996	305,358	348,095	397,017	449,821	492,173	538,734	589,948	646,307
Total revenue (thousand JD)	4,154.39	4,723.13	5,373.23	6,116.86	6,968.10	7,892.88	8,629.81	9,439.98	10,331.10	11,311.75

5.5 The Projected Costs

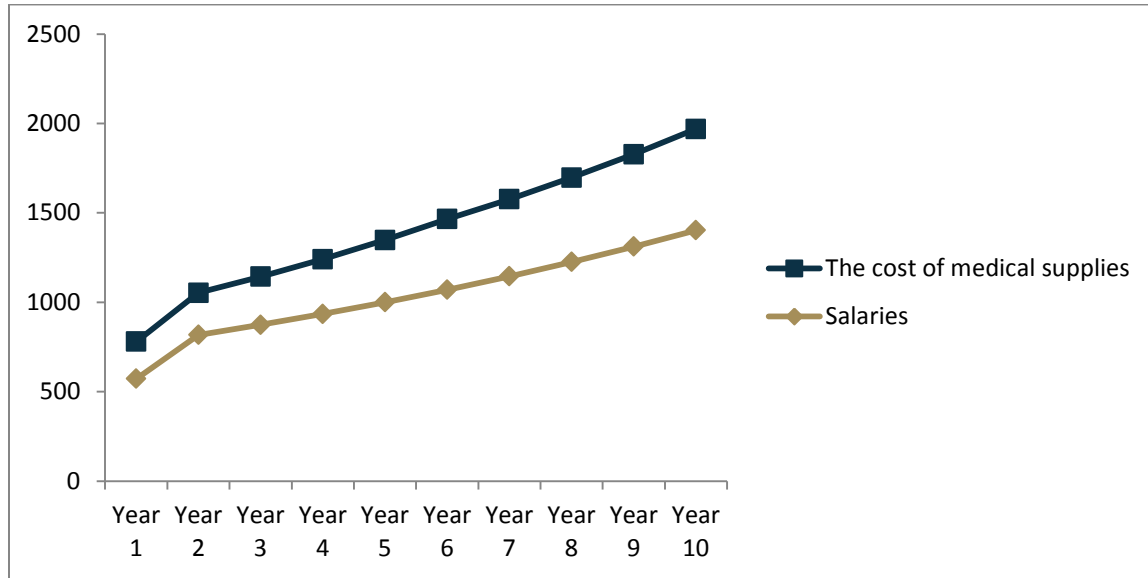
Operating Costs

the following table shows the project's Operating Costs according to the previous assumption over ten years. The medical supplies costs in Year 1 amounted to JD 208,000 which goes up to JD 566,000 in Year 10. Moreover, the salaries' cost amount to JD 572,000 in Year 1 which increases to JD 1.4 million in year 10.

The following tables show the projected operating costs of the project over the first ten years.

Table 38: Operating Costs of the Project

Operating Costs (in thousand dinars)										
Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Salaries	572	817	874	935	1,000	1,070	1,145	1,225	1,311	1,403
Staff expenses	200	286	306	327	350	375	401	429	459	491
The cost of medical supplies	208	236	269	306	348	395	431	472	517	566
Medicines	382	435	496	566	645	731	800	875	959	1,050
Laboratory materials	120	137	156	178	202	229	251	275	301	330
X- Ray materials (Radiology)	120	137	156	178	202	229	251	275	301	330
Food, beverage and related supplies	29	33	38	43	49	55	60	66	72	79
Cleaning and disinfecting materials	42	47	54	61	70	79	86	94	103	113
electricity and water	5	6	6	6	7	7	8	8	9	9
Depreciation	1,014	1,014	1,014	1,014	1,014	1,014	1,014	1,014	1,014	1,014
maintenance	97	101	106	112	117	123	129	136	143	150
Others	42	47	54	61	70	79	86	94	103	113
Total	2,830	3,296	3,527	3,786	4,075	4,387	4,663	4,964	5,291	5,647

Figure 3: Projected Operating Costs of the Project


Administrative costs

The following table shows the projected administrative costs of the project. Employees' salaries reach JD 492.8 thousand in the first year and increase to JD 906.1 thousand in the tenth year. The marketing expenses are about 5.4 thousand JD in the first year and increase to about 9.3 thousand JD in the tenth year.

Table 39: General and Administrative Expenses

General and Administrative Expenses (in thousand dinars)										
Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Salaries	492.8	527.3	564.3	603.8	646.0	691.2	739.6	791.4	846.8	906.1
Other staff expenses	172.5	184.6	197.5	211.3	226.1	241.9	258.9	277.0	296.4	317.1
Staff incentives	13.5	14.4	15.3	16.2	17.2	18.2	19.4	20.6	21.8	23.2
Stationary	12.0	12.6	13.2	13.9	14.6	15.3	16.1	16.9	17.7	18.6
Professional fees	8.0	8.4	8.8	9.3	9.7	10.2	10.7	11.3	11.8	12.4
Marketing expenses	5.4	5.8	6.1	6.5	6.9	7.3	7.7	8.2	8.7	9.3
Other expenses	10.0	10.5	11.0	11.6	12.2	12.8	13.4	14.1	14.8	15.5
Total	714.3	763.5	816.2	872.5	932.7	997.0	1,065.8	1,139.4	1,218.0	1,302.2

5.6 Projected Financial Statements

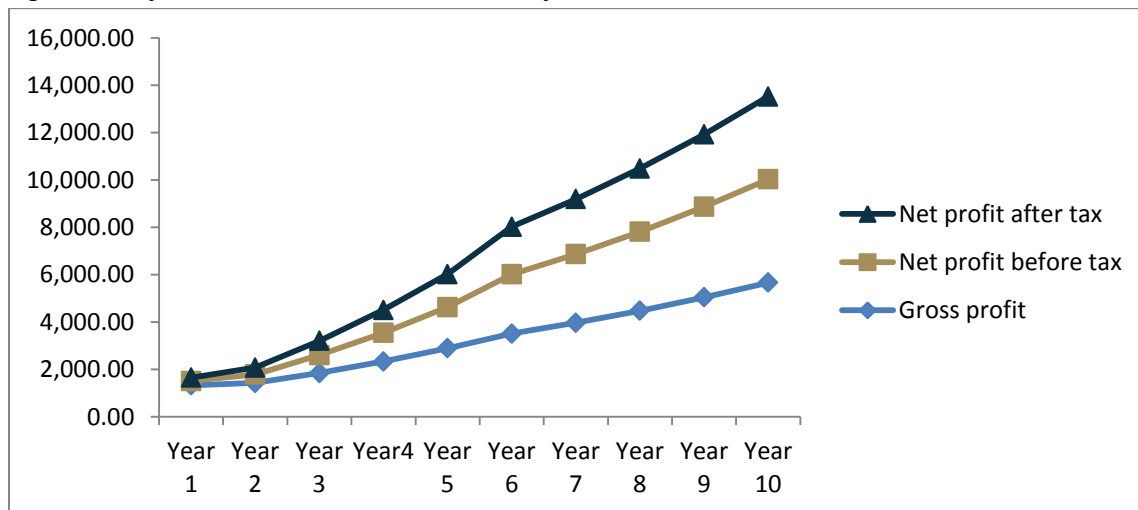
Income Statement

The following table shows the projected income statement of the project. It indicates that gross profit will increase from JD 1.3 million in the first year to JD 5.7 million in the tenth year. The net profit before tax will also increase from JD 182 thousand in the first year to JD 4.4 million in the tenth year, and the net profit after tax will increase from JD 145.6 thousand in the first year to JD 3.5 million in the tenth year.

Table 40: The Projected Income Statement of the Project

Income Statement(in thousand JD)										
Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenues	4,154.4	4,723.1	5,373.2	6,116.9	6,968.1	7,892.9	8,629.8	9,440.0	10,331.1	11,311.7
Operating costs	2,829.7	3,295.8	3,527.3	3,785.9	4,075.2	4,386.9	4,663.4	4,964.1	5,291.3	5,647.4
Gross profit	1,324.7	1,427.3	1,845.9	2,331.0	2,892.9	3,506.0	3,966.4	4,475.9	5,039.8	5,664.3
Administrative expenses	714.3	763.5	816.2	872.5	932.7	997.0	1,065.8	1,139.4	1,218.0	1,302.2
Net profit	610.4	663.8	1,029.7	1,458.5	1,960.3	2,509.0	2,900.6	3,336.5	3,821.8	4,362.2
Bank expenses	328.4	301.4	274.4	247.4	220.4			-	-	-
Amorization	100.0									
Net profit before tax	182.0	362.4	755.3	1,211.1	1,739.9	2,509.0	2,900.6	3,336.5	3,821.8	4,362.2
Tax	36.4	72.5	151.1	242.2	348.0	501.8	580.1	667.3	764.4	872.4
Net profit after tax	145.6	289.9	604.3	968.9	1,391.9	2,007.2	2,320.5	2,669.2	3,057.4	3,489.7

Figure 4: Projected Income Statement of the Project



Financial Position Statement

The following table shows the projected balance sheet of the project during the first ten years. It indicates that total assets will increase from JD 14.6 million in the year of incorporation to about JD 17 million in the tenth year.

Table 41: Projected financial position statement of the project

Financial position statement (in thousand JD)											
Statement	Year of incorporation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
Cash	475	1,339	2,160	3,028	4,001	4,916	4,343	6,023	7,806	9,701	11,722
Receivables	-	346	394	448	510	581	658	719	787	861	943
Inventory	-	81	86	92	97	103	109	116	123	131	139
Other assets	-	42	47	54	61	70	79	86	94	103	113
Total current assets	475	1,808	2,687	3,621	4,669	5,669	5,189	6,945	8,810	10,796	12,917
Fixed assets	14,020	14,020	14,020	14,020	14,020	14,200	14,200	14,200	14,200	14,200	14,200
Total depreciation	-	1,014	2,028	3,041	4,055	5,069	6,083	7,097	8,110	9,124	10,138
Pre-operating expenses	100	-	-	-	-	-	-	-	-	-	-
Net assets	14,120	13,006	11,992	10,979	9,965	9,131	8,117	7,103	6,090	5,076	4,062
Total assets	14,595	14,814	14,680	14,600	14,634	14,800	13,306	14,048	14,900	15,872	16,979
Shareholders rights and obligations											
Accrued expenses and receivables	-	475	554	593	636	685	737	783	834	889	949
long term loans	3,649	3,349	3,049	2,749	2,449	2,149	-	-	-	-	-
Total liabilities		3,824	3,603	3,341	3,085	2,833	737	783	834	889	949
Shareholders contributions	10,947	10,947	10,947	10,947	10,947	10,947	10,947	10,947	10,947	10,947	10,947
Retained earnings	-	44	131	312	603	1,020	1,622	2,318	3,119	4,036	5,083
Total equity	10,947	10,990	11,077	11,258	11,549	11,967	12,569	13,265	14,066	14,983	16,030
Total shareholder rights and obligations	14,595	14,814	14,680	14,600	14,634	14,800	13,306	14,048	14,900	15,872	16,979

Cash Flow Statement

The following table shows the projected cash flow statement of the project during the first ten years. It indicates that the cash flow from operation will increase from JD 1.3 million in the first year to JD 4.5 million in the tenth year; while the Cash at the end of the term will increase from JD 475 thousand in the year of incorporation to JD 11.7 million in the tenth year.

Table 42: The expected cash flows statement of the project

Cash Flow Statement (in thousand JD)											
Statement	Year of incorporation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Operation Activities											
Net profit	-	146	290	604	969	1,392	2,007	2,321	2,669	3,057	3,490
Depreciation	-	1,114	1,014	1,014	1,014	1,014	1,014	1,014	1,014	1,014	1,014
Change in working capital	-	6	20	(27)	(32)	(37)	(40)	(29)	(32)	(36)	(40)
Cash flow from operation	-	1,266	1,324	1,591	1,951	2,369	2,981	3,305	3,651	4,035	4,464
Investing Activities											
Fixed assets	(14,120)	-	-	-	-	(180)	-	-	-	-	-
Cash flow from investment	(14,120)	-	-	-	-	(180)	-	-	-	-	-
Financing Activities											
Capital (Equity)	10,947	-									
Loan	3,649	(300)	(300)	(300)	(300)	(300)	(2,149)	-	-	-	-
Distribution of profits	-	(102)	(203)	(423)	(678)	(974)	(1,405)	(1,624)	(1,868)	(2,140)	(2,443)
Cash flow from financing	14,595	(402)	(503)	(723)	(978)	(1,274)	(3,554)	(1,624)	(1,868)	(2,140)	(2,443)
Net cash flow	475	864	821	868	973	915	(573)	1,681	1,782	1,895	2,021
Cash at the beginning of the term	0	475	1,339	2,160	3,028	4,001	4,916	4,343	6,023	7,806	9,701
Cash at the end of the term	475	1,339	2,160	3,028	4,001	4,916	4,343	6,023	7,806	9,701	11,722

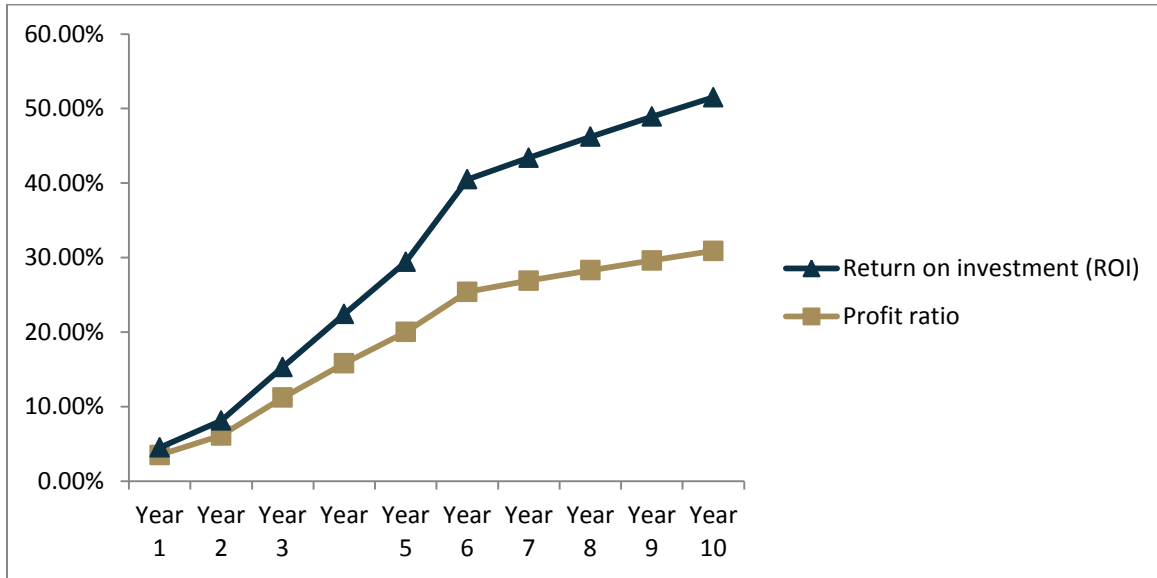
5.7 Financial, Economic and Social Analysis

Financial analysis

The following table shows the financial analysis of the project. It indicates that the net profit ratio will increase from 3.5% in the first year to 30.9% in the tenth year, and the return on investment will increase from 1.0% in the first year to 20.6% in the tenth year.

Table 43: Financial Analysis of the project

Financial Analysis (In Thousand JD)										
Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets	14,814	14,680	14,600	14,634	14,800	13,306	14,048	14,900	15,872	16,979
Revenues	4,154	4,723	5,373	6,117	6,968	7,893	8,630	9,440	10,331	11,312
Profits	146	290	604	969	1,392	2,007	2,321	2,669	3,057	3,490
Capital (Equity)	10,947	10,947	10,947	10,947	10,947	10,947	10,947	10,947	10,947	10,947
Profit ratio	3.5%	6.1%	11.2%	15.8%	20.0%	25.4%	26.9%	28.3%	29.6%	30.9%
Return on investment (ROI)	1.0%	2.0%	4.1%	6.6%	9.4%	15.1%	16.5%	17.9%	19.3%	20.6%
Return on capital (ROC)	1.3%	2.6%	5.5%	8.9%	12.7%	18.3%	21.2%	24.4%	27.9%	31.9%
The rate of return on revenues	3.5%	6.1%	11.2%	15.8%	20.0%	25.4%	26.9%	28.3%	29.6%	30.9%
Assets Turnover (Time)	0.28	0.32	0.37	0.42	0.47	0.59	0.61	0.63	0.65	0.67

Figure 5: The Financial Analysis of the Project


Economic Analysis

The following table shows the economic analysis of the project during the first ten years, we note that:

- Internal rate of return was 22.2%. It exceeded Six times the rate of return on assets, which means the economic feasibility of the project
- The present value of the project reached about JD 19.7 million. It exceeds the investment with JD 8.7 million, which means the economic feasibility of the project.
- The profitability index of the project reached 1.8 times, which means that the expected value of the project will increase by two time of the investment value, which proves that the project is feasible.
- The project payback period is 7.13 years.

Table 44: the economic analysis of the project

Economic Analysis (in Thousand JD)											
Statement	Year of incorporation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net cash flow from operations and investment	(10,947)	966	1,024	1,291	1,651	2,069	832	3,305	3,651	4,035	4,464
Residual value											31,247
Cash flow	(10,947)	966	1,024	1,291	1,651	2,069	832	3,305	3,651	4,035	35,710
Internal Rate of Return (IRR)	22.2%										

Economic Analysis (in Thousand JD)											
Statement	Year of incorporation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Current Value	19,728										
Net current value	8,781										
Profitability Index (Time)	1.80										
Payback period (Year)	7.13										

Social Analysis

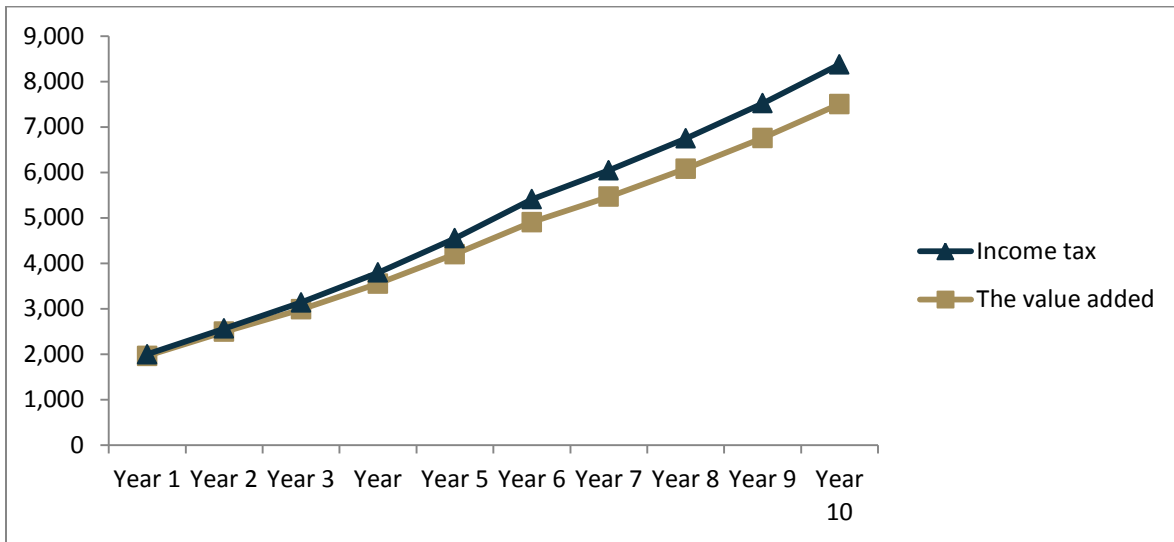
The following table shows the social analysis of the project. It is noticed that the number of staff required for the project will increase from 208 employees in the first year to 323 employees in the tenth year. All these employment opportunities will be for Jordanians.

The value added of the project will also increase from JD 1.9 million in the first year to JD 7.5 million in the tenth year. The income tax will also increase from JD 36 thousand to reach JD 872 thousand in the tenth year.

Table 45: the Social Analysis of the Project

Social Analysis										
Statement	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Number of Employees	208	218	229	241	253	265	279	293	307	323
Expected number of Jordanian employees	208	218	229	241	253	265	279	293	307	323
The value added - thousand dinars	1,961	2,492	2,986	3,552	4,200	4,905	5,465	6,080	6,757	7,503
Income tax (thousand JD)	36	72	151	242	348	502	580	667	764	872
sales tax value – thousand dinars	-	-	-	-	-	-	-	-	-	-
Exports value /replacement of imports	-	-	-	-	-	-	-	-	-	-

Figure 6: the social analysis of the project



6. Risk and Sensitivity Analysis

6.1 Risk Analysis

The following table shows the risk matrix that may face the project and the mitigation procedures avoid potential risks.

Table 46: Project risk matrix

Risks	Type of Risks	Risk Evaluation/Avoidance
Financial Risks	<ul style="list-style-type: none"> ▪ Credit Risk Credit risk represents the risk of the company's financial loss as a result of the customer's violation of the contractual obligation or that of the party dealing with the company through a financial instrument. These risks are mainly caused by trade receivables and others. ▪ Liquidity Risk Liquidity risk is the risk resulting from the company's inability to meet its financial obligations at time. The company's liquidity management is to ensure as much as possible that the company always maintain enough liquidity to meet its obligations as they become due and payable in normal and emergency conditions without incurring unacceptable losses or risks that affect the company's reputation. ▪ risk of currency fluctuation Currency risk is the risk of the fluctuation of the value of financial instrument, due to fluctuations in foreign currency exchange rates. ▪ inflation risk It is the risk associated with the 	<ul style="list-style-type: none"> ▪ The financial risks that may face the company are low, because the company payment method is cash ▪ There is no risk of currency price volatility, because the company services will be sold in local currencies ▪ There is no risk of inflation because the company's pricing is based on a periodic basis

Risks	Type of Risks	Risk Evaluation/Avoidance
	<p>possibility that the inflation or the rise in the cost of living might lead to the erosion of part of the real value of the investment.</p>	
<p>Business risk (sector risk)</p>	<ul style="list-style-type: none"> ▪ Strategic Risk It is the risk resulting from taking wrong decisions by the company's management, or implementing the decisions in a wrong way, or not taking the decisions at the right time; which leads to losses or causes loss of alternative opportunities. ▪ Legal and Regulatory Risks These risks are reflected as a result of non-compliance with laws, guidelines and instructions governing the work. Legal risks are caused by the company's break of the laws governing the work in the state in which the company operates. While regulatory risks arise from the company's violation of laws and standards issued by the regulatory authorities. ▪ Reputation Risk Reputation risk arises from influential negative public views which result in great losses of customers or money. It includes the actions of the company's management or its employees which project a negative image of the company, its performance and its relationships with customers and other stakeholders. Reputation risk also results from circulating rumors about the company and its activity. 	<ul style="list-style-type: none"> ▪ The risks are considered low before the company's establishment, because of getting the approval of the official authorities ▪ Reputational risk is very high, as the company deals with very sensitive issues such as treatment ▪ Market risk in the short term will be low because of the lack of competition from the private sector

Risks	Type of Risks	Risk Evaluation/Avoidance
	<ul style="list-style-type: none"> ▪ Competition Risk Competition risk results from domestic and external market and reduces sales and profits. 	
<p>Operational Risk</p>	<p>Operational risk involves losses resulting from the failure of internal operations, human resources and external systems or events. It includes:</p> <ul style="list-style-type: none"> ▪ IT Risks They are losses arising from downtime or systems failure due to the infrastructure, information technology, or the lack of systems, and any failure or malfunction in the systems. They include: the crash of computer systems, breakdowns in communication systems, programming errors, computer viruses and interest losing due to breakdown. ▪ Human Resources Risk Losses caused by employees or related to them (intentionally or unintentionally). It also includes acts that are intended as methods of cheating, abusing property or circumvent the law, regulations or company policy by officials or employees, as well as losses arising from the relationship with the customer, shareholders, regulators and any third party. 	<ul style="list-style-type: none"> ▪ Operational risks are very low, for the company will contract with specialized technical bodies to develop the required information systems, in order to manage operations ▪ Market competitive salaries will be paid ▪ Information security plan will be put in place to safely keep the company information
<p>State Risk</p>	<p>State Risk includes politicians' interference, civil unrest, wars, financial and monetary policies and high level of debts.</p>	<ul style="list-style-type: none"> ▪ State Risk is considered to be low, due to security and political stability; international reports indicate that State Risk is low both in medium and long terms

6.2 Sensitivity Analysis

First: Increase of Investment cost by 10%

The following table shows the results of the sensitivity analysis when investment cost increases by 10%.

Table 47: Investment Increase by 10%

Index	Base	Impact	Change
Internal Rate of Return (IRR)	22.2%	20.3%	1.9%
The Present Value at a discount rate of 13% (in Thousand JD)	19727.8	19460.1	267.7
Net Present Value at a discount rate of 13% (in Thousand JD)	8781.2	7418.9	1362.3
Profitability Index (Time)	1.8	1.6	0.2
Payback period (Year)	7.1	7.5	-0.4
The Net Profit Ratio – an average of 10 years	19.8%	19.5%	0.2%
Return on Investment - an average of 10 years	11.2%	10.4%	0.9%
Return on Capital – an average of 10 years	15.5%	14.0%	1.5%
The Rate of Return on Revenue - an average of 10 years	19.8%	19.5%	0.2%
Assets Turnover (Time)– an average of 10 years	0.50	0.46	0.04
The added value - an average of 10 years (in thousand dinars)	4590.1	4590.1	0.0
The value of the income tax - an average of 10 years (in thousand dinars)	423.6	420.3	3.3
The value of the sales tax - an average of 10 years (in thousand dinars)	0.0	0.0	0.0

The above analysis refers to the feasibility of investment in the project, in light of the high cost of the total investment of the project, which increased by 10%. It is noted that:

- the internal rate of return is 20.3%, which is high for investment purposes
- the new payback period is 7.5 years and is considered reasonable for recovery purposes
- the rate of return on capital reaches 14%, which is considered suitable for investment purposes

Second: Reducing Revenues by 10%

The following table shows the results of the sensitivity analysis when reducing revenues by 10%.

Table 48: reducing revenues 10%

Index	Base	Impact	Change
Internal Rate of Return (IRR)	22.2%	17.6%	4.6%
The Present Value at a discount rate of 13% (in Thousand JD)	19727.8	15034.0	4693.8
Net Present Value at a discount rate of 13% (in Thousand JD)	8781.2	4087.5	4693.8
Profitability Index (Time)	1.8	1.4	0.4
Payback period (Year)	7.1	8.1	-1.0
The Net Profit Ratio – an average of 10 years	19.8%	13.1%	6.7%
Return on Investment - an average of 10 years	11.2%	7.9%	3.4%
Return on Capital – an average of 10 years	15.5%	10.0%	5.5%
The Rate of Return on Revenue - an average of 10 years	19.8%	13.1%	6.7%
Assets Turnover (Time)– an average of 10 years	0.50	0.48	0.02
The added value - an average of 10 years (in thousand dinars)	4590.1	3840.7	749.4
The value of the income tax - an average of 10 years (in thousand dinars)	423.6	273.7	149.9
The value of the sales tax - an average of 10 years (in thousand dinars)	0.0	0.0	0.0

The above analysis shows the low sensitivity of the project in the case of reducing the revenues or demand by 10%. It indicates that:

- the internal rate of return is 17.6%, which is high for investment purposes
- the new payback period is 8.1 years and is considered reasonable for recovery purposes
- the rate of return on capital reaches 7.9%, which is considered suitable for investment purposes

Third: Increasing the Operating Costs by 10%

The following table shows the results of the sensitivity analysis when increasing the operating costs by 10%.

Table 49: Increasing the Operating Costs by 10%

Index	Base	Impact	Change
Internal Rate of Return (IRR)	22.2%	19.6%	2.6%
The Present Value at a discount rate of 13% (in Thousand JD)	19727.8	17080.5	2647.3
Net Present Value at a discount rate of 13% (in Thousand JD)	8781.2	6134.0	2647.3
Profitability Index (Time)	1.8	1.6	0.2
Payback period (Year)	7.1	7.7	-0.6
The Net Profit Ratio – an average of 10 years	19.8%	15.1%	4.7%
Return on Investment - an average of 10 years	11.2%	9.4%	1.8%
Return on Capital – an average of 10 years	15.5%	12.4%	3.1%
The Rate of Return on Revenue - an average of 10 years	19.8%	15.1%	4.7%
Assets Turnover (Time)– an average of 10 years	0.50	0.52	-0.02
The added value - an average of 10 years (in thousand dinars)	4590.1	4165.5	424.7
The value of the income tax - an average of 10 years (in thousand dinars)	423.6	338.7	84.9
The value of the sales tax - an average of 10 years (in thousand dinars)	0.0	0.0	0.0

The above analysis shows the feasibility of the project in light of increasing the operating costs of the project by 10%. It indicates that:

- the internal rate of return is 19.6%, it is good for investment purposes
- the new payback period is 7.7 years and is considered relatively acceptable for recovery purposes
- the rate of return on capital is 12.4%, which is considered suitable for investment purposes