
Investment Opportunities Map

Jordan Investment Board

Compact Discs (CD) Production Project

IT Sector

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The Project at a Glance	
Project Name	Compact Discs (CD) Production
Project Production Capacity	20 Million CDs/Year
Manpower	23
Total Investment Cost	US\$ 3,114,000
Initial Working Capital	US\$ 394,000
Internal Rate of Return (IRR)	25.4%
Breakeven Point	28% of production capacity

Compact Discs (CD) Production Project

1. Introduction

1.1 Product Description

Compact Disc (CD) is a digital recording media with recording capacity that could reach 700 MB. It has a wide range of usage and safety measures compared with the floppy disc in terms of not being influenced by magnetic effects, with a capacity 500 times larger than the floppy disc's.

Therefore, it is an ideal media for different uses (data storage, songs recording, movies recording, computer programs and games).

Two types of CDs are available in the market, the CD-R type, used as a read only storage media (write once, read many), and the CD-RW type, known as re-writable (read/write many).

The effect of this project will exceed its financial returns. The knowledge and experience gained from the project will help engineers and technicians to develop high quality CDs at competitive prices.

1.2 Potential Clients:

- IT Companies
- Universities and lecturers
- Researchers and Students
- Banks
- Libraries
- Music Shops
- Video recording Shops
- Publishers
- Most computer users.

2. Market Aspects

2.1 Trade Balance

Net external trade balance of CDs and other recording media during 1999 – 2003 showed an average annual deficit of about JD 2,304,000 which equals US\$ 3.25 million (Table 1).

Table (1)
CDs External Trade Statistics
(JD Thousand)

Year	Imports	Exports	Re-Exports	Balance
1999	1164	47.5	348.5	768
2000	2466	55	277	2134
2001	2314	10	391	1913
2002	4707	57	255	4395
2003	2817	19	489	2309
Average	2694	38	352	2304

Source: Department of Statistics.

2.2 Competition

In the absence of any production of CDs in Jordan and the regional countries, the competition will come from imports that mainly come from Europe and Asian countries.

2.3 Project Capacity

Considering export potentials to Arab and regional countries, the proposed project annual capacity is 200 thousand packs (each contains 100 CD). The capacity is therefore 20 million CDs based on 300 working days / year and 8 hours per day.

The production is expected to progress as follows (Table 2):

Table (2)
Production Size Development

Year	Capacity Utilization	Million CD
1	50 %	10
2	70%	14
3 +	90 %	18

2.4 Projected Sales Revenues

A pack of 100 CDs is currently sold in the local market at a price ranging between US\$ 20 and 25. The project products proposed sales price is US\$ 15 /pack of 100 CD. Consequently, the following table indicates the annual sales revenues.

Table (3)
Projected Sales Revenues

Year	1	2	3+
US\$	1,500,00	2,100,000	2,700,000

3. Technical Aspects

3.1 Project Location

The location of the project is proposed to be in one of the industrial cities in either the middle or the north province of Jordan due to the following factors:

- Major local consumers are located in these areas.
- Availability of packaging requirements.
- Adequacy of infrastructure in industrial zones.
- Availability of required skilled manpower.

Although imported raw materials and exported products need transportation, the volume and weight of the products are not large enough to make this factor important.

3.2 Manpower

Table (4)
Manpower Requirements

Job	Required No.
General Manager	1
Administrative Clerk	4
Engineer	4
Technician	8
Laborer	6
Total	23

The total annual salaries and wages of the above employees (including fringe benefits), in addition to overhead and administrative expenses are estimated at US\$ 144 thousand.

3.3 Land & Buildings

Table (5)
Land and Buildings Cost

Item	Area m ²	Cost US\$
Land (Industrial cities)	2,000	56,000
Buildings	600	210,000

3.4 Raw Materials

Polycarbonate of high purity is the needed raw material, which will be imported from Europe. The project will consume about 200 tons per year. The average cost of polycarbonate is about US\$ 5,000/ ton.

3.5 Technology

Producing CDs of high quality requires know how and suitable technology. A major technology and know how source is Holland. The cost of technology and know how is estimated at 10 % of the total production inputs cost.

4. Financial Aspects

Basic Assumptions

The financial analysis and indicators are based on the following assumptions:

1. Project operational life is 10 years.
2. Internal Rate of Return (IRR) is calculated at 100% equity ratio.
3. Income tax is calculated at 15% on net taxable income.
4. Net Present Value (NPV) is calculated at 12% discounted annual rate.
5. Initial working capital is based on the operating expenses needed for three months.
6. Operating expenses comprise raw materials, labor cost and overheads, utilities and other expenses.
7. Pre -operating expenses consist of studies fees, capital issue, licensing, training, trial operations and other similar expenses.

4.1 Project Investment Cost

Table (6)
Total Investment Cost

Item	US\$
Land	56,000
Buildings	210,000
Machinery & Equipment	2,000,000
Transport means	25,000
Sub- Total (Fixed Assets)	2,291,000
Contingency, 10%	229,000
Pre – Operating Expenses	200,000
Initial Working Capital	394,000
Total Investment Cost	3,114,000

4.2 Financial Indicators

- ROI = 21.6 %
- IRR = 25.4 %
- NPV = 2,000,000 US\$
- BEP = 28% of production capacity
- Payback Period = 4 Years.