INTERNSHIP REPORT

FEASIBILITY STUDY OF THE ROCHE'S PROPOSED PROJECT

Roche

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INTERNSHIP REPORT

FEASIBILITY STUDY OF ROCHE (BD) LTD.

PREPARED FOR
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1997-1-10-004

DATE
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EAST WEST UNIVERSITY

August 21, 2001

Dr. M. Musa
Pro – Vice Chancellor
East West University
45, Mohakhali,
Dhaka.

Dear Sir

Here is the internship report on " *Feasibility Study of Roche's HPL Project.*" assigned by you as a partial requirement of BBA program.

In this report, I have prepared a project profile for Roche (BD) Ltd. This report is divided into two parts. The first part is organization part, deals with the history of F. Hoffmann-La- Roche, Roche Bangladesh Ltd., its products, its market share, competitors etc. And in the second part it deals with the profile of the project and it's analysis. Though there are many limitations in writing and preparing this report, yet I have tried my best to present my report as good as possible.

I have really enjoyed during my internship program since I got the chance to work in a multinational company and to prepare this report. I will be pleased to provide further clarification on this report whenever necessary.

Cordially

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ACKNOWLEDGEMENT

I would like to express my gratitude to Mr. Hafizur Rahman, manager Finance department of HPL, who gave me the opportunity to prepare a project profile for Health Care Pharmaceuticals Ltd. I believe, this would help me a lot in my coming career life.

My special indebtedness and thanks goes to my supervisor Dr. M. Musa, Pro – Vice Chancellor of East West University. I believe without his help and direction, this report would not come out successfully.

I am grateful to Mr. Zillur Rahman, Head of Human Recourse Department, who encouraged and provided me some key information in preparing this report.

I would like to thank Mr. Masud, Asst. manager, Commercial, Mr.Mohsin, Administrative officer, for extending their assistance and kind co-operation.

EXECUTIVE SUMMERY

On October 1, 1896 at the young age of 28 years Hoffmann registered in Basel Switzerland a new company. A year earlier in 1895 he had married a 19-year-old girl Adele-La Roche. Fritz Hoffmann combined his and his wife name to call the new company H. Hoffmann-La-Roche. Now more than 100 years old, Roche is rated as one of the Leading Companies in the world. The spectrum of Roche business operates four Divisions; Pharmaceuticals, Diagnostics, Vitamins & fine Chemicals Fragrances & Flavors. The High rating of Roche is not only because of its turn over but more so for its contribution in the field of research and development. A Roche research product is today acknowledged as a wonder drug for treatment of life threatening infections. The world came to know about vitamins through Roche, as it is the pioneer in mass production of various vitamins. It has manufacturing plant almost more than 57 countries of the world. In the year 1998, the foundation of the Roche plant was laid in Rajendrapur Industrial area 47 Km from Dhaka. Within a span of three years the plant was constructed and Roche Bangladesh will start local manufacturing in October 2001. Manufacturing of Roche Bangladesh Ltd. Products will be jointly by the Health Care Pharmaceuticals Ltd. Health Care Pharmaceuticals will manufacture the products under the license of Hoffmann –La Roche. According to the licensee agreement, Roche will render following support to Health Care Pharmaceuticals Ltd. 1. All sorts of consultation and technical support for the Pharma manufacturing plant satisfying the GMP requirements by WHO. 2. Roche will give assistance in the selection, procurement of machinery, which are requirements for the plant. 3. Transfer process and formulations for the manufacturing of Roche products including the analytical specification and the methods of analysis. 4. The Roche experts will make periodic visit to the plant of HPL. 5. Organize training of the technical personnel of HPL in the Roche plants abroad. Today Roche Bangladesh Business covers both Pharmaceuticals and

Diagnostics. In the Pharma market Roche is ranked among the top ten companies while in the Diagnostic Sector Roche Bangladesh is the market leader.

At present the pharmaceutical industry in Bangladesh is very competitive. To establish the products in the market they should have a feasibility study, which will focus the financial condition and the prospect of the project. The total estimated cost of the project is BDT 54,78,11,000/=. Out of the total cost of the project BDT 22,19,50,000/= will be financed by the bank borrowing and rest of BDT 325,861,000/= will be finance by the HPL. The Debt – Equity ratio is 41: 59. From my preparation of the project profile the following things out came. Net present Value, Internal Rate of Return (IRR) is key factors to know whether the project is feasible or not. The *NPV* of the project is *BDT* 454,960/= *(amount in '000).* The calculation of NPV given at the end of the analysis. As the NPV is positive, the proposed project should be **Accepted.**

The Cost of Capital is 13.5% for the project and the Internal Rate of Return of the project is 45%. As the IRR is higher than the Cost of Capital, the proposed project should be **Accepted.** The calculation of the IRR given at the end of this part.

The Pay Back Period is 3.62 years of the proposed project. According to the Company's management this is a acceptable figure. The calculation is also given at the end of this part.

After analyzing all the financial statements, it is suggested that the proposed project of Roche Bangladesh Limited should be accepted.

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ORGANIZATION PART

INTRODUCTION

Origin of the Report

The Internship Program is an integral part of the BBA degree requirement. After completion of 40 courses in the East West University on different area of studies, students are sent to different organization to expose them to real life of management situation in business firm. The theoretical knowledge that we acquired from class lectures, book, journals, periodicals, case studies, etc, are replenished in the practical settings. Here we also get an opportunity to realize the relevance and usefulness of the classroom learning. Hence, Career Service Department of East West University placed me in the Roche Bangladesh Limited from January 01, 2001 to March 31, 2001, with the collaboration with Roche (BD) management for the Internship Program.

Object of This Report

The first objective of writing this report is to fulfill the requirement of the BBA Program. In this report, I have attempted to give an overview of the Roche Bangladesh Ltd in general. As Roche Bangladesh Ltd. Is going in to the manufacturing by this year they had to prepare a report consist of financial analysis, whether the project is feasible or not or what would be the return on investment and the payback period of the investment. So the *"Feasibility Study"* is the second objective of this report.

Methodology

For carrying out this study I had to observe the financial statements, their procedure of preparing financial statements, procedure of keeping the financial records and statements. I also had to know the dealings between their supporting financial institutions as primary data. I had to make interview with the officials to get some important data. I also had to go through the journals, newsletters and some books to prepare this report.

Scopes and Limitation

I have tried to prepare an accurate project profile for Health Care Pharmaceuticals ltd. according to my abilities. Time was the only limitation, which affected my report a little. As Mr. Hafizur Rahman is the only person to look after the whole finance department it was out of his ability to give me a convenient period of time to help me in preparing the report.

Report Preview

This report has been organized in the following order-

At first an Introduction has been given on the report.

Part I: An overview of Roche Bangladesh Limited as an organization with special emphasis to its background, corporate image, quantitative dimension (organization structures, manufacturing product etc.), and functional environment.

Part II: Presentation of Financial statements and its Analysis and the project feasibility study.

BACKGROUND OF THE ORGANIZATION

F. HOFFMANN – LA ROCHE

On 31 March 1894, twenty-six years old Fritz Hoffmann and Max Carl Tranb, a Munich pharmacist founded the limited partnership Hoffman Tranb & Co. in Basel to manufacture and sell pharmaceutical products. Two and half years later on 1 October 1896, it was registered as F. Hoffman – La Roche & (the origin of short from 'Roche' by which the company is known worldwide today).

Fritz Hoffmann was born in Basil on 24 October 1868 to Fedrich and Anna Elizabeth, Hoffmann – Merian. Both parents came from old Basil families. The Hoffmann's had been leading silk ribbon manufacturers since the seventeenth century and the Merian produced a number of prominent merchants. Fritz Hoffmann was the third of five children. From 1886 to 1889 he spend a happy apprenticeship with the private bank Piguet & Co. in London followed by another apprenticeship with the pharmacy Bohny, Hollinger & Cie.

In 1889 Bohney Hollinger & Co. bought the business property 3190 square meters in Klien Basil. Bohney, Hollinger & Cie built a small laboratory to manufacture pharmaceutical extracts, ointments, pills essentials oils, linseed – oil varnish and floor polish. They hired Max Carl Tranb, an experienced pharmacist from Munich to manage the operation. Running his apprenticeship Fritz Hoffman and his father had taken a particular interest in the Bohney, Hollinger & Cie. In 1892 Hoffman Merian invested 200,000 Swiss Francs as a silent partner in Bohney, Hollinger & Cie to buy his son a position as authorized officer of the company. Two years later on 31st March 1894, the limited partnership of Hoffman, Tranb & Co. was founded to manufacture and trade in pharmaceuticals and chemicals. Fritz Hoffman – Merian invested 180,000 Swiss Francs as a silent partner. Young Fritz Hoffman contributed 70,000 Swiss Francs. Fritz Hoffman would the responsible for finance and sales and Tranb for production. Hoffman worked hard and in order to expand the company he hired well-known chemist and managers.

At the end of the 1894 he become engaged to Adil La Roche, the eighteen years old sister of his friend Enanual La Roche. In autumn 1896 Hoffman and Tranb parted ways. Tranb, who was sufferings from hart trouble had failed to come up with new ideas and had been guilty of occasional business improperties. Hoffman bought Tranbs share for 50,000 Swiss Francs and paid him, a settlement on top of that. And the company was renamed Fritz Hoffman – La Roche & Co. on 1st October 1896.

Pharmaceutical and Research

Since the late nineteenth century tremendous advances in medicine, Biology, chemistry and physics, coupled with steadily rising standards of living in the West, have propelled the pharmaceutical industry along a path of uninterrupted progress. As the twentieth century draws to close this progress shows no sign of flatering. Quite the opposite fundamental breaks through are driving a major new wave of development. The first industrial revolution is customarily traced to the advent of the steam engine, textile machinery and the railways in the 1700s the second to the rise of the electrical and chemical industries in the mid – 1800's. Since the end of the last century the evaluation of the pharmaceutical industry. Towards the end of the Century pharmacology made it possible to entr'acte an ever-greater number of alkaloids, glycosides and another agents in increasingly pure forms.

A key factor in the environment department in scientific research from the eve of the First World War to the 1920's was the improvement in the analytical methods. Before the First World War, measurements were made in kilogram and grams. The developments of microanalysis enabled scientists to work on a scale of milligrams. On the other hand rapid advances in physiology and biochemistry gave scientists a better understanding of the functions of the body, the causes of disease and the actions of drugs. A major landmark was the discovery that harmful substances in the body bind to specific raptor molecules.

Roche Products

Despite many parallels and similarities in the histories of individual pharmaceutical companies, each has had its own unique development. As the industry has grown more and more research based, each has played a leading role at one point or another in the general development of pharmaceutical. From its founding until the First World War Roche specialized in glandular and medical plant extracts. From the 1933 onwards after a totally unexpected initial success with Reichstein's Vitamin C, Synthesis the company threw all its energies into quickly expanding vitamin research and production. Even before the Second World War Roche was the world's leading vitamin manufacturer, indeed it seemed on its way to becoming a vitamin company. As a result hormones were neglected and an attempt to revive this field in collaboration with Organon, a Dutch company was not a success. Roche's hematological research however progressed beyond its initial concern with liver extracts, leading to the discovery of several important coagulants and anti coagulants, some of which are still in use.

In the mid 1930's immediately after the revolutionary discovery of Protosil by Domagk, Roche began the search for a better sulfonamide of its own. But it was only towards the end if the war those two Basil researchers who had been transferred to nuthy created the very effective Gantrisin, which was lunched after the war with great success. This drug was followed by improvements every few years and later by products like Bactricum. Containing combinations of sulfonamides and potentiators. The war year also saw the start of the antibiotic research at Nutby. Focused mainly on semisynthetic Penicillin's and Ceohalosporins this work continued for years with mixed results until 1982 and the lunch of Rocephin (Ceftriaxone) still one of Roche's best selling drugs. In 1950, Miacin research led unexpectedly to Rinifon (isoniazid) and mersilid (iproniazid) important treatments for tuberculosis. During the same year the success of other companies were having with mild tranquilizers encouraged Roche to return to this traditional field of research and eventually led to the development of benzodiazepine tranquilizers by stern bach and Radal. Between 1976 and 1980 Roche did not launch a single successful drug. More over the company overextended it self by simultaneously diversifying into an extremely broad range of care activities, sometimes unsuccessfully. The turnaround inaugurated in 1978 put the company back on the road to recovery. Areas that Roche had been working in for decades produced successful new drugs, such as the antibiotic Rocephin, the Retinoid dermatological (a development of vitamin research), the antidepressant and benzodiazepine anesthetics and antagonists.

Roche in good and bad times

Roche's history offers a number of textbook examples of the opportunities and dangers of the pharmaceutical industry. Fritz Hoffman, a venturesome young businessman, founded the company in the 1890s, a time when drug extraction, synthetic chemistry and pharmacology were opening up new possibilities in the field of pharmaceuticals. At the same time, new forms of marketing consumer medications were being developed. Hoffmann's desperate efforts to recover from the setbacks that followed an overly ambitious start were rewarded by the commercial success of his guaiacol syrup Sirolin.

In 1919-20, when the firm became a joint stock company and Fritz Hoffmann died, the enterprise's fortunes were at lowest. Thanks to the determinations of some Hoffmann's family, the support of the Basler Handels bank and, above all, the super human efforts of Barell, who as the Managing Director, was prepared to use every means at his disposal, the firm recovered astonishingly quickly, despite the post –war economic slump. In 192, after cutting staff from 1500 to 1000, Roche had a sales volume of 20 million Swiss francs, about one third less than in 1920. After that, things improved. Roche was virtually a new firm, practicing the values of extreme thrift and discipline, with an outstanding staff of veteran and new employees of various nationalities.

Roche was remarkably international, both in terms of markets and employees. Three things characterized Barell's efforts to hold the company together: He took all decisions himself, and oversaw everything personally, both at headquarters and on his constant travels to affiliates around the globe. Secondly, he forged a kind of confederacy of executive officers and affiliate heads by making them shareholders in the company. Finally, by relying on self-financing, holding down capitalization and maintaining a stance of strict secrecy, he shielded Roche from its immediate and more distant environment.

The few research chemists at Roche had long been working in the promising field of vitamins and hormones. Certain developments showed potential, but were not ready for marketing yet. Barell had always felt that research proceeded far too slowly, and trusted only in sales figures. It was largely owing to vitamins that Roche could grow solidly in the 1930s,as the world went through the Great Depression. Although the volume of sales fell from a record 50 million Swiss francs in 1929 to 30 million in 1933, it then rose steadily to 65 million in 1939, and global employment from 1500 to 2200.
As war clouds gathered over Europe, Roche began expanding production at its subsidiaries in the West and established two new research centers in England and the United States.

Group turnover surged from 200 million Swiss francs in 1945 to over 800 million in 1960, and the number of employees from 4000 to 12,000. Even at the executive level there was some support for the view that, so long as enough was spent on research and the company carefully tended its reserves, a successful product would turn up every few years; Roche would grow on automatic pilot, as it were.

The situation did not change until 1978, when Fritz Gerber, a man versed in the management and risks of multinational corporations, succeeded Jann as chairman and began weaning the company from its old ways in deliberate, carefully dosed steps. For a start, a new cost-consciousness was introduced, and the company's accounting system was modified to make it a suitable management tool.This was the beginning of an entirely new approach to public relations. Roche's operations were gradually reduced to a core group of related businesses: pharmaceuticals, vitamins, diagnostics and fragrances and flavors. With time, the focus of pharmaceutical research was also limited to a few, promising therapeutic areas and products, and the development process was speeded up. Roche also embraced biotechnology, a risky field, but one holding considerable promise. Strategic alliances and careful acquisitions. At first, progress seemed almost painfully slow, but after 1985 new steps followed in increasingly rapid succession. Gerber's frequently quoted metaphor of it taking a long time to turn around a large ship and get it moving again describes the situation exactly. In the years from 1978 to 1985, sales rose from 4.8 to almost 9 billion Swiss francs, and the number of employees went from 42,000 to 45,000. By 1992, sales had reached 12.95 billion Swiss francs, and group employment was at 56,000. During the same intervals, profit on sales rose from 3% to 5.1%, and then to 14.8%.

The creation of Roche Holding Ltd, the restructuring of the group's equity capital, the issue of non-voting equity securities, changes in group accounting and reporting practices and the major placement of American Depositary Receipts representing non-voting equity securities marked the final transition of the once small family business to a modern corporate structure befitting the scale of Roche's operations. It meets international standards, but with the founder's family as its backbone. For the third time in its history, Roche has been more or less recreated.

Fritz Hoffman – La Roche Ltd.

Major Business Segment:

• Pharma	- 65%
• Fine chemicals	- 20%
• Flavor & Fragrances	- 10%
• Diagnostic	- 5%

Market Capitalization :		**$ 91.85 bn**
• Among Pharmaceutical Companies		1^{st} in the world
• Among Diagnostics Companies		1^{st} in the world
Sales Turnover :		**$ 18.36 bn**
• Among Pharmaceutical Companies		7^{th} in the world
• Among Diagnostics Companies		1^{st} in the world
Global Activities		150 Countries

ROCHE IN BANGLADESH

MISSION STATEMENT

Roche Bangladesh limited is a health care company deeply committed to its customers for providing researched based products of the highest quality and its people are strongly focused to realize company's business plans for growth and profitability.

VISION STATEMENT

Roche Bangladesh limited will maintain its position as the leading health care company in Bangladesh and will endeavor through its dedicated team of people to be in the top five health care companies in terms of sales and profitability by the year 2003.

ROCHE VALUES:

- **A performance culture**

  Which are passionate setting ambitious goals and rewarding achievements.

- **Global network**

  To build the competitive advantages

- **A drive to change**

  By taking informed risk and by courageous leadership.

- **A sense of urgency**

  And empowerment at all levels of the organization.

- **Clear, transparent two- way communication.**

•KEY INFORMATION•

1. There had been 9 multinational pharmaceutical plants in the then East Pakistan until 1971

2. With Ciba-Geigy establishing a plant in 1987, the total number became 10.

3. Out of them, 4 companies left Bangladesh by closing plants between 1990-1994

4. Roche has been transferring technology to HPL to build an international standard pharmaceutical plant.

5. From the 1st year of operation, Roche will export locally produced medicines to Myanmar.

MARKET OF BANGLADESH

MARKET ENVIRONMENT

1. More than 200 pharmaceutical manufacturing companies operating their businesses in Bangladesh. Out of them very few are multinationals; Glaxo-Wellcome, Hoechst, Rhone Poulenc, Renata, Fisons, Akzo, Avetis, Organon, Novartis.

2. At least 4 of the local manufacturers have bigger plants than any of the multinationals in Bangladesh

3. The MNC's have taken 30% of the pharma market share

4. More than 95% of the pharma requirements are produced locally. Import is limited to about 5%

5. There is a strong organization of the local manufacturers

6. The market is highly price sensitive

7. Square Pharma of Bangladesh holds the largest market share. Rhone Poulanc in the second and Beximco Pharma in the third position.

REGULATIONS

1. Import of pharmaceuticals as a whole is discouraged

2. The registration process is strict with imported products and is much relaxed with local produce.

3. Pharma products (with same active ingredient) produced in the country in sufficient quantities are not allowed to be imported. When the same medicine is produced by 2 or more local manufacturers, it is considered to be sufficient for the market.

4. License manufacturing has two different perspectives:

   - If the licensor has a pharma plant in Bangladesh, they can offer license to any other local manufacturer in Bangladesh for any product they like.

   - If the licensor does not have a pharma plant in Bangladesh, they can offer license to any other local manufacturer in Bangladesh for any product, which is not manufactured locally.

Roche products were available in the sub continent even before partition. After Bangladesh emerged on the world map imports continued, and after a few years some products started to be toll manufactured in Dhaka.

In the year 1998, the foundation of the Roche plant was laid in Rajendrapur Industrial area 47 Km from Dhaka. Within a span of three years the plant was constructed and Roche Bangladesh will start local manufacturing in October 2001. Manufacturing of Roche Bangladesh Ltd. Products will be jointly by the Health Care Pharmaceuticals Ltd. Health Care Pharmaceuticals will manufacture the products under the license of F. Hoffman –La Roche.

According to the licensee agreement, Roche will render following support to Health Care Pharmaceuticals Ltd.:

1. All sorts of consultation and technical support for the Pharma manufacturing plant satisfying the GMP requirements by WHO.

2. Roche will give assistance in the selection, procurement of machinery, which are requirements for the plant.

3. Transfer process and formulations for the manufacturing of Roche products including the analytical specification and the methods of analysis.

4. The Roche experts will make periodic visit to the plant of HPL.

5. Organize training of the technical personnel of HPL in the Roche plants abroad.

Today Roche Bangladesh Business covers both Pharmaceuticals and Diagnostics. In the Pharma market Roche is ranked among the top ten companies while in the Diagnostic Sector Roche Bangladesh is the market leader.

Most of the products of Roche are their research products. As they are in the top position in research. Their best selling products is 'Rociephin', medicine as anti-biotic. "Xenical" is their another research product for over weight. This product is under the patent ship for ten years. In Bangladesh their main competitors are Fisons, Novartis, jointly Rhone Poulanc etc in some particular products. Of their total products some will be imported from Switzerland, which couldn't be manufactured locally. The lists of their total products have been given below separating locally manufactured and imported products.

Local Production of Roche (BD) Ltd.

Dilatrend Tabs	Rocephin Vials
Dormicum Tabs	Rocaltrol Caps.
Inhibace Tablets	Toradol Tabs.
Lariam Tabs	Sanatogen-C
Lexotanil Tabs	Sanatogen-M
Neomercazole Tabs	Sanatogen-J
Rivotril Tabs	Xenical Caps.

Imported Medicine of Roche:

Bondronat Amps.	Neupogen Inj.
Cellcept Tabs.	Neotigason Caps.
Dormicum Amps.	Recormon Inj.
Globocef Tabs.	Roaccutane Caps.
Herceptin Vials.	Roferon-A Inj.
KonakionMM Amps.	Toradol Amps.
Konakion Tabs.	Vesanoid Caps.
Mabthera Vial.	Xeloda Tabs.

The Roche (BD) management and board of directors are consisting of well known and experience personalities. They are providing their full efforts to establish the company in this market. The working environment of Roche is probably one of the best in Bangladesh according to some experience employees. The management is always alert to provide the best environment of work in order to grow the efficiency of each employee. To maintain the discipline in the job they all follows the chain of command. The top authority of Roche (BD) made the management decentralized in order to take quick and efficient decision. But major decisions are taken in a group consisting of the management and the directors.

The Roche Bangladesh has five divisions to run its business. The divisions are: Product Promotion, Finance, Human Resource, Factory and sales. Each division is headed by General Manager, following manager, asst. manager, senior officer and officer.

- Product Promotion Division:

At present a manager heads this department. Asst. manager and product officers work under him. They are responsible for the marketing of the product. As it's a manufacturer of life saving products, it can't promote the products through advertising like other products of the market. So, they are responsible to promote the products through letting know the people its quality and its features.

- Human Resource Development Division:

An Asst. Manager heads this division at present. He deals with new recruitment's, employees well being, corresponding with the parent company and other external affairs. This division also responsible for assuring good and smooth working environment, taking decisions and steps to motivate the employees for the best feedback.

- Finance Division:

Headed by a manager. Major responsibilities of the finance manager are to take important financial decisions and to make agreements and deals with the financial institutions, which are related with the business.

- Factory Division:

This division is headed by quality assurance managers and a Factory / Technical manager. QA Managers are responsible for assuring the quality and the compliance's. Factory manager sees the technical part and also overall production related works.

- Sales Division:

Headed by a sales manager. He is responsible for the sales, distribution of the products. Therefor including the asst. manager, senior officer, officer, Medical officers, representatives' works under him.

- Advisor Committee:

Some well known and experience doctors and Pharmacists is the member of this committee.

- Managing Director:

The managing Director of Roche Bangladesh limited is Mr. Naser Sharear Zahidee, a well-known businessman and pharmacist. He is also the Managing Director of Roche Myanmar. He looks after the overall organization.

PROJECT PART

PROJECT SUMMERY

- Name of the Project

Health Care Pharmaceuticals Ltd.

- Location of the project

The Proposed Project is situated at Rajendrapur, Dist- Gazipur with required infrastructure facilities.

- Project

The project envisages to set up a supporting Pharmaceutical unit for Roche Bangladesh ltd. in the name " Health Care Pharmaceuticals Ltd." at Gazipur district.

- Status of the firm

Private limited company.

- Infrastructure facilities

1. Communication	: The project site is well connected by the roads.
2. Utilities	: Electricity, gas, water supply is sufficient for the manufacturing of the products.

- Availability of skilled labor

Necessary skilled and unskilled labors for the proposed project are locally available.

- Project cost

The estimated Project cost is BDT 54,78,11,000/=

- Means of finance

Out of the total project cost, BDT 22,19,50,000/= will be financed by bank borrowing and BDT 32,58,61,000/= will be financed by the HealthCare Pharmaceuticals Ltd.

- Debt / Equity ratio : **41 : 59**

- Income Statement:

Income statement shows the Retained income of the proposed project. The Retained Income in the first is BDT 49,576,000/=, which has increased to BDT 146,964,000/= in the year 5. The calculation of the income statement is given in the financial statements part of this report.

- Statement of Balance Sheet:

The asset side of the Balance sheet includes current asset, which is combination of cash balance and stocks and fixed asset. In the first year the asset and the liability was BDT 544,282,000/=, which has increased to BDT 936,382,000/= in the year 5.
The calculation is given in the financial statements part of this report.

- Statement of Cash flow:

This part shows the closing cash in hand and at bank. In the first year the cash was BDT (734,000)/=, which increased to BDT 422,366,000/= in the fifth year of the proposed project. In the first year of the production the cash out flow was higher than the cash in flow for which the value of the first shows negative.

- Net Present Value:

Net present Value is one of the key factors to know whether the project is feasible or not, depending on negative / positive value of the figure. The *NPV* of the project is *BDT* 454960/= *(amount in '000).* The calculation of NPV given at the end of the analysis. As the NPV is positive, the proposed project should be Accepted.

- Internal Rate of Return:

The Cost of Capital is 13.5% for the project and the Internal Rate of Return of the project is 45% As the IRR is higher than the Cost of Capital, the proposed project should be Accepted. The calculation of the IRR given at the end of this part.

- Pay Back Period:

The Pay Back Period is 3.62 years of the proposed project. According to the Company's management this is a acceptable figure. The calculation is also given at the end of this part.

- Test of Sensitivity:

More over in the sensitivity test Sales and Operating Expanses were increased and decreased by 10%. Both test shows the NPV is positive and IRR are 45% and 14%, which are an acceptable figure. So, the proposed project is feasible. The calculation has been given in the Sensitivity Analysis part of this report.

PROJECTED FINANCIAL STATEMENTS

FOR

HEALTH CARE PHARMACEUTICALS LTD

FINANCIAL ASSUMPTIONS

Important financial assumptions for the proposed project are:

a) The project is assumed to have 300 working days in a year. The production operation will run for 8 hours in each day.

b) The price of raw materials and finished goods has been calculated on the current market price.

c) The cost of Stores and Spares for the project has been calculated at 1% for the 1^{st} year, 1.5% for the 2^{nd} year and 2% for the rest of the years on machine value.

d) The cost of repair and maintenance for the project has been calculated 0.5%, 1% for the 1^{st}, 2^{nd} and 1.5% for the rest of the year on the building cost.

e) Rent and other related expenses for the project have been calculated 1% in every year on the project cost.

f) In wages and salaries increment will be at 10% rate per year.

g) Capacity utilization estimated for the project are: 57%, 70%, 90% in the 1^{st}, 2^{nd}, 3^{rd} year and 100% in the rest of two years.

h) Depreciation has been calculated at the following rate:

Buildings=5%
Machinery=10%
Vehicle=25%
Electrical=10%
Others=20%

Projection of Income Statement for Health Care Pharmaceuticals Ltd.

(amount in'000)

Health Care Pharmaceuticals Ltd. Projected Income Statement						
Years	Ref.	1	2	3	4	5
Sales	Sch-1	417,047	512,163	658,496	804,828	951,161
Cost of goods sold	Sch-4	221,308	300,697	369,016	441,971	516,608
Gross Profit		195,739	211,466	289,480	362,857	434,553
General & admin. Exp.	Sch-2	5,213	6,402	8,231	10,060	11,890
Marketing Exp.	Sch-2	62,557	76,824	98,774	120,724	142,674
Distribution Exp.	Sch-2	20,852	25,608	32,925	40,241	47,558
Operating Profit		107,117	102,632	149,550	191,831	232,431
Financial Exp.	Sch2.1	32,566	27,033	21,745	16,589	11,433
Net opr. Profit before tax		74,551	75,599	127,805	175,242	220,998
Workers participation fund 5%		3,728	3,780	6,390	8,762	11,050
Net Profit		70,823	71,819	121,415	166,480	209,948
Tax reserve 30%		21,247	21,546	36,424	49,944	62,985
Dividend 0%		0	0	0	0	0
Retained Income		49,576	50,273	84,990	116,536	146,964

Year	1	2	3	4	5
Gross profit margin	46.93%	41.29%	43.96%	45.09%	45.69%
Operating profit Margin	25.68%	20.04%	22.71%	23.84%	24.44%
Profit Margin on Sales	11.89%	9.82%	12.91%	14.48%	15.45%

Notes on Income Statement:

Gross profit has been found by subtracting Cost of goods sold from the Sales. The calculation of Sales and Cost of Good sold were given in the Schedule 1 and schedule 4. To find the operating profit, operating expanses: General and Administrative expanses, Marketing expanses and Distribution expanses have been deducted from the gross profit. The calculations of the expanses were given in the schedule- 2. Financial expanses are the amount of interest paid on the loan from the bank. The interest is compounded at 13.50% per year. Net profit comes by deducting financial expanses and workers participation fund, which is 5% of the profit before tax. As it is a pharmaceutical company, it's enjoying tax holiday for ten years. So, 30% of the net profit will be reserved as equity. Deducting the tax reserve from the net profit has showed retained Income in the Income Statement.

Proposed Balance Sheet for Health Care Pharmaceuticals Ltd.

(amount in ' 000)

Health Care Pharmaceuticals Ltd. Pharmaceuticals Ltd. PROJECTED BALANCE SHEET	Ref.	1	2	3	4	5
Assets						
Cash Balance	CF.	(734)	34,252	120,527	249,926	422,366
Stocks		55,194	75,662	94,436	115,153	136,296
Raw Materials 60 days		40,037	55,126	68,973	84,619	100,626
Packing materials 30 days		2,502	3,323	4,283	5,257	6,233
Stores and Spares 60 days		264	449	617	651	657
WIP 2 days		1,558	2,044	2,499	2,990	3,492
Finished goods 14 days		10,833	14,719	18,064	21,635	25,289
Current assets		54,460	109,914	214,963	365,079	558,662
Fixed Assets		489,822	461,797	433,771	405,746	377,720
TOTAL ASSETS		544,282	571,710	648,734	770,824	936,382
LIABILITIES						
Long term loan		177,560	133,171	88,779	44,389	-
OWNERS EQUITY		295,898	295,898	295,898	295,898	295,898
Tax Holiday Reserve	I.S.	21,247	42,793	79,217	129,161	192,146
Retained Profit	I.S.	49,577	99,848	184,840	301,377	448,338
Total equity		366,722	438,539	559,955	726,436	936,382
TOTAL LIABILITIES & O/E		544,282	571,710	648,734	770,825	936,382

C.F.= Statement of CashFlow
I.S. = Income Statement

Notes on the Balance Sheet:

The asset side of the balance sheet includes Current assets (consists Cash and Stocks) and Fixed assets. The amount of cash is brought from the Statement of CashFlow. Here stocks refer to inventories. The fixed assets were depreciated on amount of Tk.28,025* per year.

The liability side consists of long term loan of five years. Bank loan for the project is BDT. 221,950*. The project has to repay BDT.44, 390* as principal amount of the loan per year. During the construction period Tk.44, 390* has been paid as repayment of principal amount. So in the first year the liability of the project is Tk.177, 560*. And at the rate of Tk.44, 390* liability decreases till the 5th year. The tax reserve and retained income were cumulatively considered as equity per year.

* to be read in thousand.

Estimated **Cash Flow Statement** for Health Care Pharmaceuticals Ltd.

Amount in ' 000

Health Care Pharmacuticals Ltd Cash Flow Statement						Taka '000
Description	Ref	Year 1	Year 2	Year 3	Year 4	Year 5
Operating Activities						
Cash receipt from sales		417,047	512,163	658,496	804,828	951,161
Raw material cost	Sch-4	-200,183	-235,595	-289,738	-354,124	- 418,511
Packing material cost	Sch-4	- 25,023	- 30,730	- 39,510	- 48,290	- 57,070
General and Admin. expenses	Sch-2	- 5,213	- 6,402	- 8,231	- 10,060	- 11,890
Over head expenses	Sch-3	- 23,271	- 26,813	- 30,518	- 32,248	- 34,146
Marketing expenses	Sch-2	- 62,557	- 76,824	- 98,774	-120,724	- 142,674
Distribution expenses	Sch-2	- 20,852	- 25,608	- 32,925	- 40,241	- 47,558
Workers participation fund	I.S	- 3,728	- 3,780	- 6,390	- 8,762	- 11,050
L/C Commission		- 2,601	- 3,064	- 3,767	- 4,604	- 5,441
Cash in/(out) flow from oprt. activities		73,619	103,347	148,643	185,775	222,821
: Add Back Depriciation		28,025	28,025	28,025	28,025	28,025
Net cash in/out flow from oprt. activities		101,644	131,372	176,668	213,800	250,846
Investing Activities						
Purchase of CAPEX mach. and build.		-221,950				
Purchase of CAPEX		-295,898				
cash in/(out) flow from invest. activities		-517,848				
Financing Activities						
Log term loan taken.		221,950				
Repayment of loan installments		- 44,390	- 44,390	- 44,390	- 44,390	-44390
Interest on term loan		- 29,963	- 23,971	- 17,978	- 11,985	-5991
Net cash in/out flow from fin. activities		147,597	- 68,361	- 62,368	- 56,375	- 50,381
Total cash in/(out) flow during the year		-268,607	63,011	114,300	157,425	200,465
Beginning Balance		295,898	27,291	90,302	204,602	362,027
Net Cash Flow		**27,291**	**90,302**	**204,602**	**362,027**	**562,492**

I.S. = Statement of CashFlow

Notes on the Statement of CashFlow:

The Total Cash inflow of the project consists of Operating inflow and non-operating inflow. Opening balance of cash and cash receipt's from the sales are operating inflow. Cash came from long term loan has been calculated as non-operating inflow.

In the statement Operating cost and expanses are calculated as operating out flow and Repayment of principal amount and interest on loan is calculated as non-operating out flow. Net Cash flow of the project has been found by Deducting cash out flow from the cash inflow. The net cash flow at the end of each year goes to the opening balance of the following year.

The calculation of the cost and expanses have been given in the schedule-2,3,4.

Schedule-1

Based on single shift operation (8 hourly/day) sales at full capacity has been estimated Tk.731, 662. In the first year 57% of the total capacity, 2nd year 70%, 3rd year 90% of the total capacity will be utilized. The project will not only achieve production at full capacity (single shift) in year 4 but also start second shift with a utilization of 10% of the second. In year 5 the production level will be at full capacity of the first shift and 30% of the second shift.

Sales at 100% capacity utilization = BDT. 731,662/= (amount in'000)

Year	1	2	3
Percentage	57%	70%	90%
Sales	417,047	512,163	658,496

Sales of 4th year = (731,662)*10% + 731,662 = 804,828
Sales of 5th year = (731,662)* 30% + 731,662 = 951,161

So, the *Projected sales:*

(amount in' 000)

Year	1	2	3	4	5
Sales	417,047	512,163	685,496	804,828	951,161

Schedule-2

(amount in' 000)

Major Expenses	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5
1) General and Admin. Exp. 1.25% of *Sales*	**5,213**	**6,402**	**8,231**	**10,060**	**11,890**
2) Marketing Expenses 15% of *Sales*	**62,557**	**76,825**	**98,774**	**120,724**	**142,674**
3) Distribution Expenses 5% of *Sales*	**20,852**	**25,608**	**32,925**	**40,241**	**47,558**

Schedule 2.1

Interest amount has been calculated @13.50% on the loan due of each year. Total Financial expenses consist of interest expenses and commission charged on L/C.

(amount in' 000)

Year	1	2	3	4	5
Loan Due	221,950	177,560	133,170	88,780	44,390
Principal amount	44,390	44,390	44,390	44,390	44,390
Interest amount	29,963	23,970	17,978	11,985	5,992
L/C commission	2,603	3,063	3,767	4,604	5,441
Financial Expenses	**32,566**	**27,033**	**21,745**	**16,589**	**11,433**

Schedule 2.2

Depreciation Expanse

Depreciation		Yr-1	Yr-2	Yr-3	Yr-4	Yr-5
a) HVAC System	66,960					
S.line Dep. In	.05					
Depriciation		3,348	3,348	3,348	3,348	3,348
b) Electrical	15,172					
S.line Dep. In	10					
Depriciation		1,517	1,517	1,517	1,517	1,517
c)Building	112,559					
S.line Dep. In	.05					
Depriciation		5,628	5,628	5,628	5,628	5,628
d) Warehouse	25,853					
S.line Dep. In	.05					
Depriciation		1,293	1,293	1,293	1,293	1,293
e)Adm. & QC	18,708					
S.line Dep. In	.05					
Depriciation		935	935	935	935	935
f)Machenery	141,792					
S.line Dep. In	10					
Depriciation		14,179	14,179	14,179	14,179	14,179
g) Vehicles	4,500					
S.line Dep. In	.25					
Depriciation		1,125	1,125	1,125	1,125	1,125
Total Depriciation		28,025	28,025	28,025	28,025	28,025

Schedule- 3

(amount in' 000)

Overhead Expenses					
	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5
1) Wages and salaries	**13,392**	**14,731**	**16,204**	**17,825**	**19,607**
10% increase/year					
2)Utilities	**2,000**	**2,100**	**2,205**	**2,315**	**2,431**
5% increase/year					
3)Stores and Spares					
% taken on *Machine value* of	131,792				
%	1%	1.50%	2%	2%	2%
Cost of stores and spares	**1,318**	**1,977**	**2,636**	**2,636**	**2,636**
Opening Balance	-	264	448	617	651
Material available for consump.	1,318	2,240	3,084	3,253	3,286
Less:closing stock	264	448	617	651	657
Spare parts consumed	1,054	1,792	2,467	2,602	2,629
4)Repair and maintenance					
% taken on *machinery and bldg.*	288,912				
%	0.50%	1%	1.50%	1.50%	1.50%
Cost	**1,445**	**2,889**	**4,334**	**4,334**	**4,334**
5)Repair and maintenance-vehicle					
%taken on vehicle value of	4,500				
%	2%	2%	2.50%	2.50%	2.50%
Cost	**90**	**90**	**113**	**113**	**113**
6)Rent rates and taxes					
%taken on project cost of	492,617				
%	1%	1%	1%	1%	1%
Cost	**4,926**	**4,926**	**4,926**	**4,926**	**4,926**
7) Other expanses	**100**	**100**	**100**	**100**	**100**
Total Factory overhead expanses	**51,032**	**54,654**	**58,374**	**60,240**	**62,165**

Schedule -4

Cost of Raw Materials					
% of sales	48%	46%	44%	44%	44%
% reduced in last year due to change of the product mix					
Cost	200,183	235,595	289,738	354,124	418,511
Opening balance	-	40,037	55,126	68,973	84,619
Material available for consumption	200,183	275,631	344,865	423,097	503,130
Less: closing Stock 60 days	40,037	55,126	68,973	84,619	100,626
Raw material Consmd.	160,146	220,505	275,892	338,478	402,504
Cost of packing mat.					
6% of sales	25,023	30,730	39,510	48,290	57,070
Opening balance	-	2,502	3,323	4,283	5,257
Material available for consumption	25,023	33,232	42,833	52,573	62,327
Less: Closing Stock 60 days	2,502	3,323	4,283	5,257	6,233
Packing Mat. consmd.	22,521	29,909	38,550	47,316	56,094
Total Material Cost	**182,667**	**250,414**	**314,441**	**385,793**	**458,598**
Add: T.Fact Overhead	51,032	54,654	58,374	60,240	62,165
TotalManufactering Cost	**233,699**	**305,069**	**372,815**	**446,033**	**520,763**
Add:Opn.Stock of WIP	-	1,558	2,044	2,499	2,990
300 work days(T. manufac. cost)					
Total Goods in process	233,699	306,627	374,859	448,532	523,753
Less:Closing stock of WIP 2 Days	1,558	2,044	2,499	2,990	3,492
Cost of Goods Mnfc.	**232,141**	**304,583**	**372,360**	**445,542**	**520,262**
Add: Opn. Stock of FG	-	10,833	14,719	18,064	21,635
300 work days(T. manufact. cost)					
T. cost of goods manufactured	232,141	315,416	387,080	463,606	541,896
Less:closing stock of FG					
14 Days	10,833	14,719	18,064	21,635	25,289
Cost of Goods Sold	**221,308**	**300,697**	**369,016**	**441,971**	**516,608**

** Depreciation Cost has been included in the cost of good sold under Total Factory overhead item.

FINANCIAL RATIO'S
OF
THE PROPOSED PROJECT

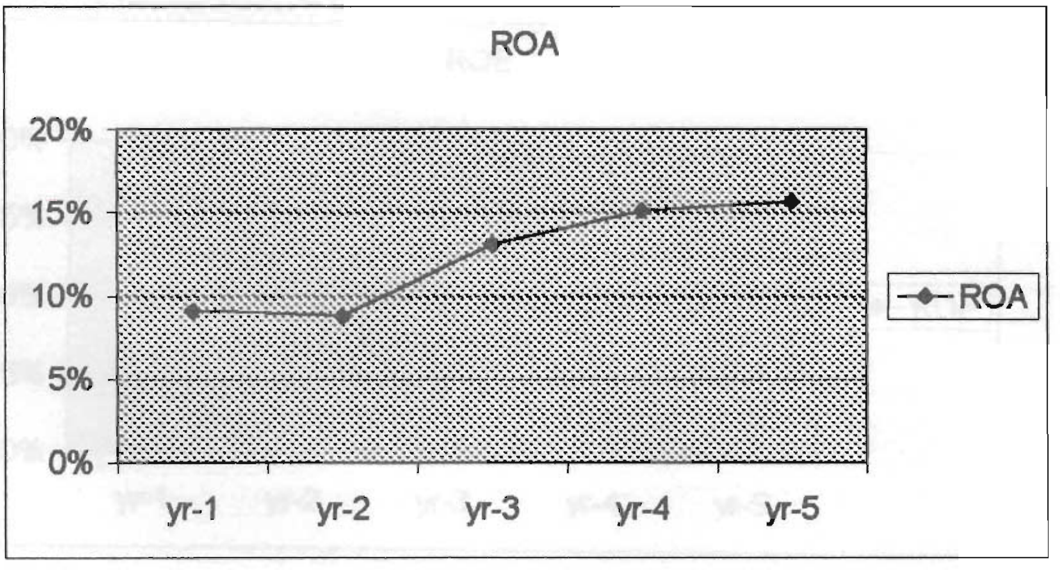
FINANCIAL RATIO ANALYSIS

- **RETURN ON TOTAL ASSETS:**

The ratio of net income to total assets measures the *return on total assets* (ROA) after interest and taxes.

ROA = Net income available to common stockholders / Total assets.

Year	1	2	3	4	5
N.Inc. to common Stockholder	49,576	50,273	84,990	116,536	146,964
T. Assets	544,282	571,710	648,734	770,825	936,382
ROA	9.11%	8.79%	13.10%	15.12%	15.69%



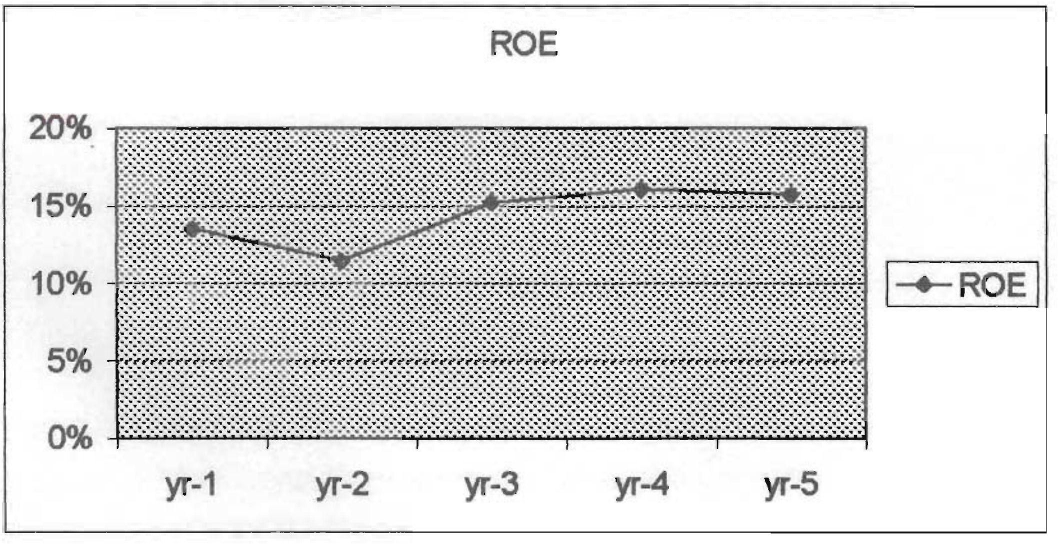
It can be seen from the above graph that in the year 2-3 ROA has increased from 8.79%-13.10%. This was due to the inconsistency of net income's growth rate, which has increased from 1.40%-69% in the year 2 and 3.

- **RETURN ON COMMON EQUITY:**

The ratio of net income to common equity measures the *return on common equity (ROE)*, or the rate of return on stockholders investment.

ROE = Net income available to common stockholders / Common equity.

Year	1	2	3	4	5
N.Inc. to common Stockholder	49,576	50,273	84,990	116,536	146,964
Total Equity	366,722	438,539	559,955	726,436	936,382
ROE	**13.52%**	**11.46%**	**15.18%**	**16.04%**	**15.69%**



It can be seen from the above graph that in the year 2-3 ROE has increased from 11.46%-15.18%. This was due to the inconsistency of net income's growth rate, which has increased from 1.40% - 69% in the year 2 and 3.

SUMMERY OF FINANCIAL RATIO'S

	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5
Debt ratio=total debt/total assets	32.62%	23.29%	13.68%	5.76%	0.00%
Profit margin on sales=net inc./sales	11.89%	9.82%	12.91%	14.48%	15.45%
Operating profit Margin= Opr.profit/sales	25.68%	20.04%	22.71%	23.84%	24.44%
Gross Profit Margin= Gross Profit/sales	46.93%	41.29%	43.96%	45.09%	45.69%
ROA=net inc.avlb.to stockholder/T.asset	9.11%	8.79%	13.10%	15.12%	15.69%
ROE=net inc. avlb.to stockholder/equity	13.52%	11.46%	15.18%	16.04%	15.69%

PAY BACK PERIOD

The Pay Back Period is the length of time required for the net revenues of an investment, to cover the cost of the investment. In a simple way it is the expected numbers of years required to recover the original investment. The Pay Back calculation process is given below:

Pay Back = Year before full recovery + Uncovered cost at start of year / Cash Flow during the year.

The cash flow of the 5 years are given below:

Year	Cash Flow
0	(295,898)
1	27,291
2	90,302
3	204,602
4	362,027
5	562,492

Therefor, the Pay Back Period is = 3+ 225,616 / 362,027

= 3+ 0.62

= 3.62 years (approx.)

NET PRESENT VALUE

The Net Present Value has been found from the *Cash Flow of the Project* and the *Cost of Capital.* In this analysis the Cost of Capital includes only the cost of Borrowing, which is the interest rate of the loan.
So, The Cost of Debt is 13.50%.

To find out the NPV, the formula is:

$$\mathbf{NPV = \Sigma\ CF_t / (1+ k)^t}$$

Where,

CF = Cash Flow
K = Cost of Capital
T = Period

$NPV=(295,898)+27,291 / (1.1350)^1+90,302 / (1.1350)^2+204,602 / (1.1350)^3+$
$+362,027 / (1.135)^4 +562,492 / (1.1350)^5$

$=(295,898)+24,044+70,098+139,933+218,151+298,632$

$= 454,960$

NPV = Taka 454,960/= (amount in '000)

Hence the NPV is positive the project is feasible and it should be accepted.

INTERNAL RATE OF RETURN

The IRR is defined as that discount rate which equates the present value of a project's expected cash inflows to the present value of the project's expected costs or equivalently forces the NPV to equal zero.

To find the IRR the formula is:

$$\mathbf{NPV = \Sigma\ CFt\ /\ (1+IRR)t = 0}$$

Where,

CF= Cash Flow
T = Period
IRR = Internal rate of return

The cash flow of the 5 years are given below:

Year	Cash Flow
0	(295,898)
1	27,291
2	90,302
3	204,602
4	362,027
5	562,492

Calculation of IRR:

If, the IRR =44%

(295,898)+27,291 / $(1.44)^1$+90,302 / $(1.44)^2$+204,602 / $(1.44)^3$+ +362,027 / $(1.44)^4$ +562,492 / $(1.44)^5$

=-295,898+18,952+43,548+68,520+84,196+90,845

= *10,163*

If, the IRR =45%

(295,898)+27,291 / $(1.45)^1$+90,302 / $(1.45)^2$+204,602 / $(1.45)^3$+ +362,027 / $(1.45)^4$ +562,492 / $(1.45)^5$

= *-295,898+18,821+42,949+67,112+81,897+87,756*

= *2,637*

So, The IRR of the project is 45% (approx.)

The IRR of the project, which is **45%** is a reasonable rate for running the business. After analyzing the IRR it shows that the project is feasible and should be accepted.

•Sensitivity Analysis •

Sales and Operating Expanses increased by 10% in every year from the projected values.

Health Care Pharmaceuticals Ltd.
Projected Income Statement

Years		1	2	3	4	5
Sales		490,214	585,330	731,662	877,994	1,024,327
Cost of goods sold		221,308	300,697	369,016	441,971	516,608
Gross Profit		**268,906**	**284,633**	**362,646**	**436,024**	**507,719**
General & admin. Exp.		6,128	7,317	9,146	10,975	12,804
Marketing Exp.		73,532	87,799	109,749	131,699	153,649
Distribution Exp.		24,511	29,266	36,583	43,900	51,216
Operating Profit		**164,735**	**160,250**	**207,168**	**249,450**	**290,049**
Financial Exp.		32,566	27,033	21,745	16,589	11,433
Net opr. Profit before tax		**132,169**	**133,217**	**185,423**	**232,861**	**278,616**
Workers participation fund 5%		6,608	6,661	9,271	11,643	13,931
Net Profit		**125,561**	**126,557**	**176,152**	**221,218**	**264,686**
Tax reserve	30%	37,668	37,967	52,846	66,365	79,406
Dividend	0%	0	0	0	0	0
Retained Income		**87,893**	**88,590**	**123,306**	**154,853**	**185,280**

As a part of sensitivity test the projected Sales and the Operating Expanses has been ***Increased by 10%.*** Increasing by 10% the NPV of the project is positive and IRR is 45%. So, the proposed project should be accepted.

Cash flow:

(amount in' 000)

Year	0	1	2	3	4	5
Cashflow	(295,898)	17,374	71,932	179,243	329,677	523,153

NPV = Tk. 329,728/=
IRR = 45%

Decreasing Sales and Operating Expanses by 10% every year from the projected values.

Health Care Pharmaceuticals Ltd.
Projected Income Statement

	Years	1	2	3	4	5
Sales		343,881	438,997	585,330	731,662	877,994
Cost of goods sold		221,308	300,697	369,016	441,971	516,608
Gross Profit		**122,573**	**138,301**	**216,314**	**289,691**	**361,386**
General & admin. Exp.		4,299	5,487	7,317	9,146	10,975
Marketing Exp.		51,582	65,850	87,799	109,749	131,699
Distribution Exp.		17,194	21,950	29,266	36,583	43,900
Operating Profit		**49,499**	**45,014**	**91,931**	**134,213**	**174,813**
Financial Exp.		32,566	27,033	21,745	16,589	11,433
Net opr. Profit before tax		**16,933**	**17,981**	**70,186**	**117,624**	**163,380**
Workers participation fund 5%		847	899	3,509	5,881	8,169
Net Profit		**16,086**	**17,082**	**66,677**	**111,743**	**155,211**
Tax reserve	30%	4,826	5,124	20,003	33,523	46,563
Dividend	0%	0	0	0	0	0
Retained Income		**11,260**	**11,957**	**46,674**	**78,220**	**108,647**

As a part of sensitivity test the projected Sales and the Operating Expanses has been *Decreased by 10%.* Decreasing by 10% the NPV of the project is positive and IRR is 14%. Therefor also, the proposed project should be accepted.

Cash flow:

(amount in' 000)

Year	0	1	2	3	4	5
Cashflow	(295,898)	(18,843)	(3,429)	61,811	170,175	321,580

NPV = Tk. 341/=
IRR = 14 %

1) Financial Statements of Health Care Pharmaceuticals Ltd.

2) Annual report of F. Hoffmann – La Roche; *year 1999*.

3) Financial Management; *Eighth edition; E.F. Brigham and L.C. Gapenski.*

4) Web site of F. Hoffmann – La Roche

5) Financial journals, Newspaper etc