Efficient Analysis of Financing Options for Electro Controls Expansion
&
Costing of the Major Products of Electro Controls

An Internship Report for

Course Code and Course Title: MBIR002 Final Internship Report

Credits: 8

Submitted in partial fulfilment of Master's Degree

MBA Finance

BY

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Under the Supervision of

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Goa University - Goa Business School

Department of Management Studies

GOA UNIVERSITY

Date: 28th April 2023

Examined by:

Seal of the School

DECLARATION

I hereby declare that the data presented in this Internship report entitled, **"Efficient Analysis of Financing Options for Electro Controls Expansion & Costing of the Major Products of Electro Controls"** is based on the results of investigations carried out by me in the **MBA in Finance** at the **Goa Business School**, Goa University under the Mentorship of **Prof. Nilesh A. Borde** and the same has not been submitted elsewhere for the award of a degree or diploma by me. Further, I understand that Goa University or its authorities will not be responsible for the correctness of observations / experimental or other findings given the dissertation.

I hereby authorize the University authorities to upload this dissertation to the dissertation repository or anywhere else as the UGC regulations demand and make it available to anyone as needed.

Date: 28/04/2023

Place: Goa University

Yash Dilip Verlekar

Roll No.: 2167

MBA Finance

Goa Business School - Goa University

COMPLETION CERTIFICATE

This is to certify that the internship report "**Efficient Analysis of Financing Options for Electro Controls Expansion & Costing of the Major Products of Electro Controls**" is a bonafide work carried out by **Mr Yash Dilip Verlekar** under my mentorship in partial fulfilment of the requirements for the award of the degree of Master of Business Administration in the Finance at the Goa Business School, Goa University.

Date: 28/04/2023

Prof. Nilesh A. Borde

Professor of Management Studies

Dr Jyoti D. Pawar

Dean, Professor of Computer Science & Technology

Goa Business School – Goa University

School Stamp

Date: 28/04/2023

Place: Goa University

electro controls
Mfrs. of Electrical Switchboards, Panels
Automation Systems & Components

ISO 9001:2015 Certified BY IRQS
MGMT. SYS. R v A C 071

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Date: 26th April 2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Yash Dilip Verlekar student of Goa Business School- Goa University, Taleigao, has completed his internship with us from 01st March 2023 to 26th April 2023 in Finance Department. The student has been regular in his attendance during his internship to the best of our knowledge. We hope that he has benefited from the training provided to him and wish him all the best in his future.

Electro Controls

Paresh Kenkre,
Manager Engineering

ACKNOWLEDGEMENT

I would like to express my sincerest gratitude to everyone who supported and contributed to the completion of my internship report at Electro Controls.

First and foremost, I am immensely thankful to Mr. Paresh Kenkre, the Manager of Engineering at Electro Controls, for his exceptional guidance and unwavering support throughout my internship. His valuable insights and suggestions were instrumental in shaping my understanding and knowledge of the industry, and I am incredibly grateful for the opportunity to learn from him.

I would also like to thank Miss Pratiksha Arolkar and Miss Shweta Tungal, Assistant HR and Accounts employees at Electro Controls, for their assistance and cooperation during my internship. Their kindness and willingness to help made my time at the company more enjoyable and productive.

Furthermore, I extend my heartfelt appreciation to my project guide, Prof. Nilesh A. Borde, for his outstanding mentorship, invaluable feedback, and expert guidance throughout the course of my internship. His contributions were instrumental in shaping the direction and scope of my research, and I am forever grateful for his support.

Last but not least, I would like to thank all the employees of Electro Controls for their kindness, & support, during my internship. Their contributions made a significant impact on my experience, and I am grateful for the opportunity to work alongside such talented and dedicated professionals.

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1 Profile of the company

In 1988, two partners founded a tiny Small-Scale Factory at Sancoale Industrial Estate, Zuarinagar, one an experienced graduate engineer and the other a science graduate with an exceptional business background.

The firm began with only small control panels and distribution boards with a small turnover of Rs. 2 Lac. With a revenue of more than Rs. 3.75 crores, the firm has grown over the last decade and currently manufactures all sorts of switchboards and panels for a variety of sectors.

The firm provides a comprehensive computer-aided design capability for switchboard design. The fabrication and painting work is subcontracted out to colleagues at the firm, whereas the Assembly and Testing factories are owned and run by the corporation.

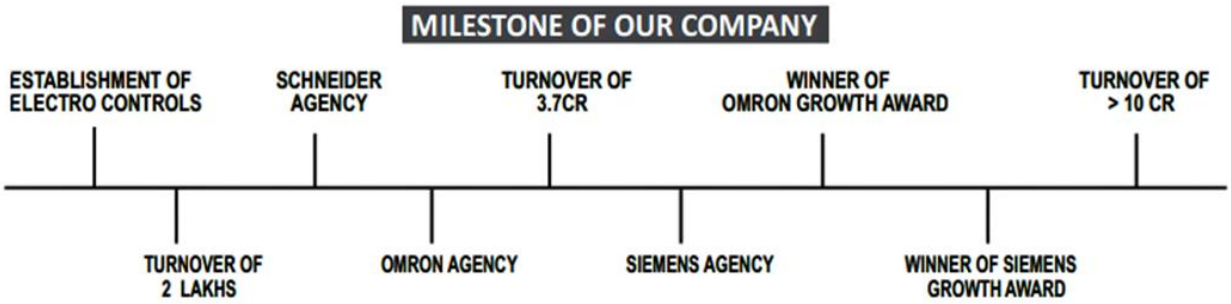
The firm offers switchboards that fulfill IS/IEC 61439-0 requirements for various industrial applications and IEC-92 standards for coastal applications, as well as IRS, Lloyds, ABS, BV, and RINA inspections.

They successfully tested MCC/PCC to a 50kA short circuit for 1 second at CPRI Bangalore.

Omron Automation Pvt. Ltd. has certified them as an Approved System Integrator for the whole Omron Automation Pvt. Ltd. product line.

For their whole Automation product range, they are a Siemens Ltd. Approved System Integrator.

As Authorised Channel Partners, they have access to Schneider Electric's comprehensive range of switchgear and energy monitoring systems and solutions.



Products by Electro Controls:

Our Partners

OMRON

SIEMENS

Life Is On Schneider Electric

EcoXpert™ Certified by Schneider Electric

Our Customers

vedanta

deccan Fine Chemicals (India) Pvt. Ltd.

Cipla

ADAGE

1.1 Company Analysis

1.1.1 SWOT Analysis

Strengths

• They are one of the most well-known companies in Goa for automation controls and electrical panel design.

• They can customize panels to meet customer needs with their talented team of designers and electricians.

• They follow efficient production procedures which allow the firm to create high-quality panels at a lesser cost.

• Excellent reputation for quality and dependability.

• Electro controls have strong supplier and customer connections.

• They are the authorized dealers of Omron and Siemens and Authorised Channel Partners of Schneider Electrics.

Weakness

• Limited brand recognition in the market.

• Lack of brand awareness and advertising on any social media platform.

• Lack of space for storing raw materials in large quantities.

• Due to the small size of the business, they do not provide adequate seating for its employees.

• The panel's replacement parts are quite expensive and may be difficult to locate.

Opportunity

• They have a great chance to have a system like SAP to keep track of and record everyday operations.

• They have the opportunity to expand their firm as they receive many orders from their existing customers and also from new customers.

• Expanding marketing initiatives to expand brand awareness and attract new clients.

Threat

• Worldwide, there is a lack of electrical goods. As a result, the delivery of the items is delayed.

• Intense competition from bigger businesses that have greater resources and well-known brands.

• Regulation and standard changes that could have an impact on how electrical panels are made or what characteristics must be included.

• Dependence on a limited number of major suppliers that may be subject to interruptions or price changes.

1.1.2 VRIN

Value

• Electro control has highly trained and experienced electrical engineering and assembly personnel.

• Company's strong contacts with high-quality component suppliers.

• The product offered by the company is a valuable resource as these are highly differentiated.

• They offer a wide range of products as compared to the other company.

Rare

• The product offered by the company is not rare as another competitor can also produce a similar product in the market. But the company's loyal and skilled labor from past so many years is very rare to find for other businesses or new entrants.

Inimitable

• Customers of electro controls receive high-quality products, which has contributed to the popularity of the brand. Purchases are repeated when the quality is high and constant. But if competitors spend a lot of money on research and development, they can also buy the products because they are not that expensive to copy.

Non-substitutable

• Specialized knowledge of electrical applications and solutions that are difficult to replace with alternative solutions.

• A reputation for high-quality and reliable products that is difficult to substitute with alternative brands or manufacturers.

1.2 Industry Analysis

1.2.1 PORTER 5 Forces

The threat of New Entrants – Moderate

• This sector is distinguished by a lower requirement for funds and technology while requiring highly skilled workers, making it slightly easier for new players to enter.

• They can easily establish a partnership with their suppliers and commence the production and sale of goods.

The threat of substitute – Low

• Few businesses manufacture control panels, and the cost difference between them and alternatives is low.

• Electric panels are an essential component of many electrical systems and may not have viable substitutes in some applications, particularly in industries.

Bargaining power of buyers - Moderate

• Since the customer's product is created by their specifications and there are only a few businesses that engage in this market, the buyer has low bargaining power.

• The buyers have few options available in the market and the switching cost is moderate among different providers.

• Several businesses in this area have retained their devoted clients and expanded their pool of potential customers by quickly developing and customizing their products.

Bargaining power of suppliers - Low

• The quality of the raw materials carries a lot of weight in the electric equipment business.

• If the material is of high quality, efficiency can be greatly increased; if not, efficiency can be negatively impacted.

• Only a small number of businesses have vertically integrated supply chains or exclusive purchasing agreements with suppliers.

• There are many suppliers in this market.

Competitive Rivalry - Low

• The level of competition in electric panel manufacturing companies in Goa is very less as there are very few players engaged in this type of business. And also, some companies do not provide customized panels according to the needs required by the customer.

1.2.2 PESTEL

Political Factors

- It all comes down to how and to what extent the government intervenes in the economy. It includes government policy, market political stability or volatility, trade policy, tax policy, labor law, environmental laws, and trade restrictions. In this case, the government should also assume responsibility for taking all necessary steps to guarantee that much-needed new technology is obtained and made available. Eg. environmental regulations may require companies to meet certain standards for energy efficiency or emissions, and changes in trade policies or tariffs may impact the cost of components or materials needed for an electric panel.

Economic Factors

- These factors have a big influence on how a company does business and how wealthy it is. Economic growth, interest rates, currency rates, inflation, and both company and consumer disposable income are all important. Economic factors can influence the business by influencing the availability and pricing of materials and components, as well as consumer purchasing power. Exchange rate fluctuations, for example, may affect the cost of importing or exporting components, while changes in consumer spending habits may affect demand for electric panels.

Social Factors

- Social and cultural factors can influence the manufacturing business by influencing customer preferences and demand. Growing environmental consciousness, for example, may enhance demand for energy-efficient or renewable energy solutions, whereas changing

demographics may influence the kinds of products or services in demand. Like Consumer perception towards brands and products, Lifestyle changes.

Technological Factors

- Technical improvements may affect the availability and pricing of components and materials, as well as the efficiency and effectiveness of assembly processes, in the electric panel assembling sector. Innovative goods or services, such as smart electric panels that can be operated remotely, may be enabled by new technology.

Environmental Factors

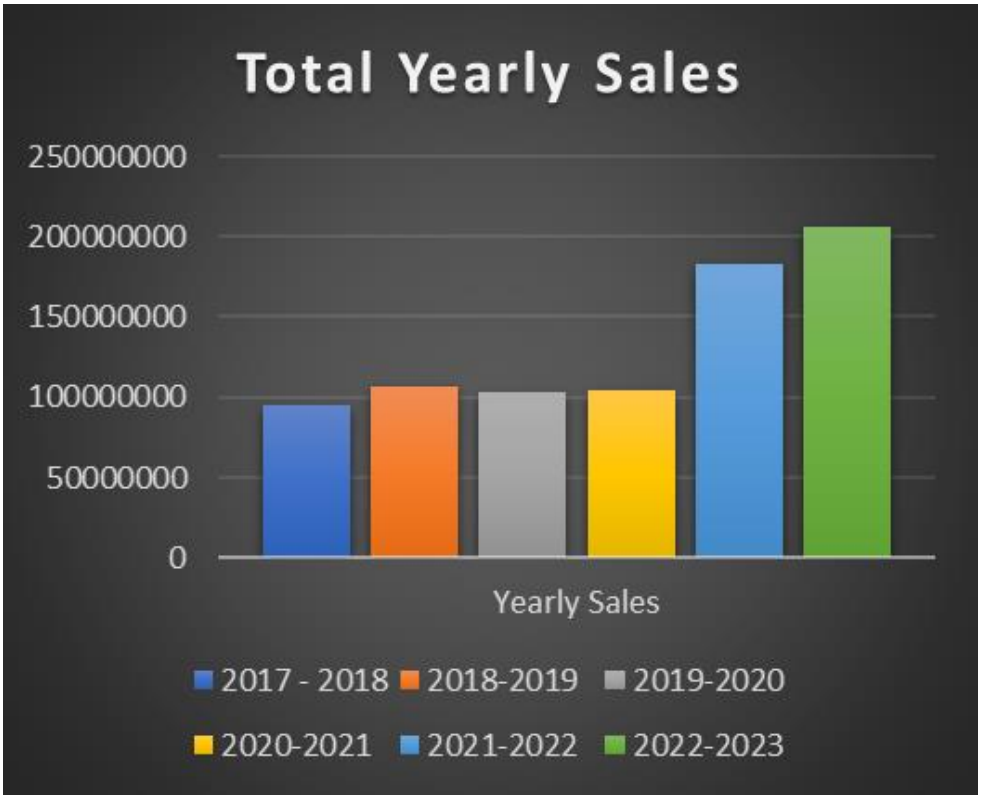
- The government has established several guidelines and rules for the management and recycling of waste. If the rules change, the business will be immediately impacted because it will need to adjust its waste management and behave by the new rules. Additionally, natural disasters or extreme weather events may impact the availability and cost of components and materials

Legal Factors

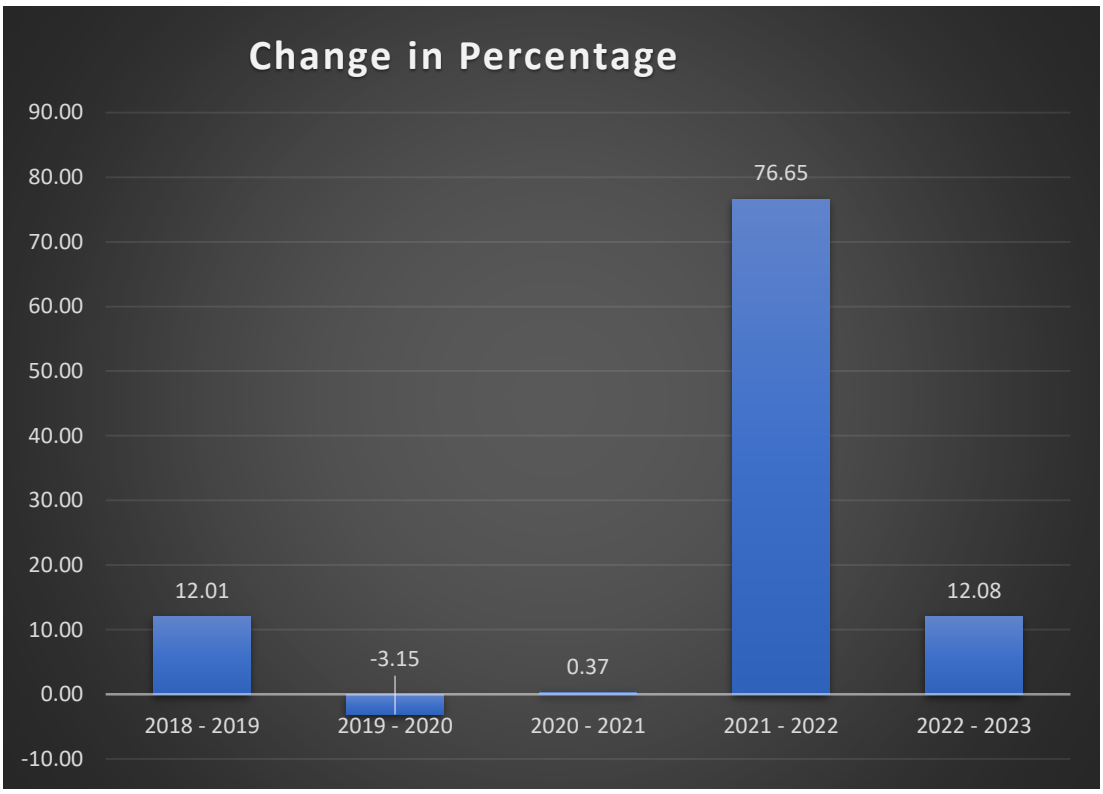
- Laws and regulations may have an impact on the firm by establishing safety requirements, environmental impact, and other issues that may influence the design and assembly of electric panels. Companies should know what is legal and what is not legal to trade successfully. They should register their products with the regulatory authorities.

Determining a company's five-year sales history and the percentage change in sales

Total Yearly Sales	
Year	Yearly Sales
2017 - 2018	95397565.32
2018-2019	10,68,52,586.50
2019-2020	10,34,88,293.31
2020-2021	10,38,68,247.85
2021-2022	18,34,78,252.62
2022-2023	20,56,39,004.46
Total	79,87,23,950.06



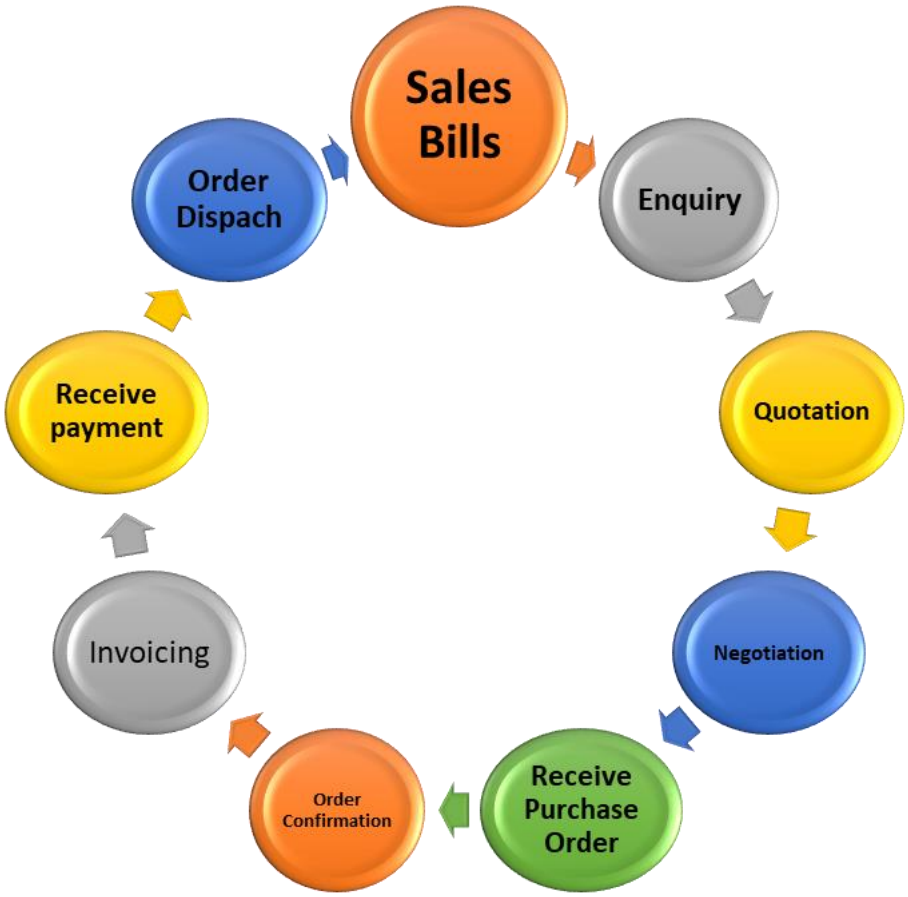
Change in %			
Year	Sales Amount	Absolute change	% of change
2017 - 2018	95397565.32		
2018 - 2019	106852586.50	11455021.18	12.01
2019 - 2020	103488293.31	-3364293.19	-3.15
2020 - 2021	103868247.85	379954.54	0.37
2021 - 2022	183478252.62	79610004.77	76.65
2022 - 2023	205639004.46	22160751.84	12.08
Total	798723950.06		



As we can see from the above table the sales of the firm have been increasing constantly throughout the years. In 2019-2020 the sale dropped by -3.15 % due to the covid pandemic and it slowly increased in the following year by 0.37%. in 2021-2022 the sale of the company has been raised by 76.65%, it was due to the big project which was been undertaken by the

company in Chitradurga- Karnataka. From this, we can say that the company has come on track after the covid pandemic as the sales in 2022-2023 have been 12.08%. Also, I was informed by the company that the average increase in sales before 2018-2019 was around 6%-7% every year.

The process of fulfilling a customer's order, from the initial placement of the order to the final delivery of the product.



The first step of this process is getting an inquiry from the customer/client for the specific requirement. Then the sales department raises the quotation. If the client agrees with the quotation provided, then directly they receive the purchase order, or else some clients negotiate

with the price and the company allows some discount for the regular client and finalizes the deal.

Once they receive the purchase order, they check the delivery time and send the order confirmation mail to the client stating the delivery time and the total amount to be payable. After these steps the accounts department raises the invoice and they receive the money through RTGS/NEFT and then they dispatch the order to the shipping address. In the case of the new client who is placing the order 1st time with the company, the full amount should be paid in advance for the 1st three orders.

2 Project 1 (Efficient Analysis of financing option for Electro Controls Expansion)

2.1 Introduction

The goal of this project was to analyze several loan options on the market and choose the one with the lowest interest rate to determine the optimal loan scheme for a company. The goal was to increase the firm's profitability while reducing the cost of borrowing.

I gathered information from a variety of sources, including financial institutions, online loan providers, and governmental organizations, to accomplish this purpose. After that, this data was evaluated to find loan programs that had the specific terms—lowest interest rate, payback schedule, and loan amount that the company was looking for.

I used financial modeling methods to project the firm's future financial performance after reviewing the data. This involved looking at the company's earnings, costs, cash flow, and profitability. To determine how changes in interest rates and other important variables will affect the firm's financial performance, I also performed a sensitivity analysis.

2.2 Literature Review

1. ***"The Entrepreneur Motivation and Financing Sources"*** Anthony Abiodun Eniola (5 January 2021)

This study investigated how financing decisions are influenced by business innovation, business expansion, product and service development, working capital requirements, and machinery and equipment requirements. Results showed that entrepreneurs primarily use internal funding sources for working capital, machinery and equipment, and business innovation, while external funding sources are more common for business expansion and

product and service development. Debt financing is used by more established and larger firms. The results of the experiment will improve entrepreneurs' understanding, cognition, and perception, and may aid them in making decisions about the capital structure of their company.

2. **"Modified Profitability Index and Internal Rate of Return"** Armênio de Souza Range, Jose Aurenir Souza dos Santos, J. Savóia **(**2016)

The internal rate of return (IRR) and net present value (NPV) techniques have drawbacks, such as multiple rates, the presumption that cash flows are reinvested at the IRR, and the scale impact. To address these drawbacks, two alternative models were created: the profitability index (PI) and the modified internal rate of return approach (MIRR). The PI addresses NPV's shortcomings, while the MIRR does the same for IRR. Both approaches have drawbacks, such as multiple rates, the presumption that cash flows are reinvested at the IRR, and the scale impact. To avoid these errors, two alternative models were created: the profitability index (PI) and the modified internal rate of return approach (MIRR).

3. **"Pre-Estimate Cash Flow Analysis"** David B. Ashley; and Paul M. Teicholz

A method is created for simulating a building project's financial flow. Modeling a wide range of project and contractual situations is made much more flexible by alternative techniques of defining cost and revenue flows. A given cash flow's net interest, cost, and present value are computed. The impact of early payments on cash flow is modeled using a linear unbalancing method. This information is useful for determining whether to submit a bid for a specific project as well as for calculating the interest expense and net worth related to a specific project timetable and bidding strategy. To make using this model easier and to let readers participate in the analytical process, computer software for a minicomputer was created.

4. **"On the allocation of overhead costs"** Dieter Pfaff Universität Zürich (28 Jul 2006)

This study examines the best way to allocate overhead costs across different departments in a one-period context. The conclusion is that divisional managers' presentation of exaggerated profit expectations will encourage overinvestment in the common input. If the allocation is based on a measure that approximates the divisions' proportion of marginal profitability, full-cost allocation is the first-best option. Equal distribution is the best option for homogenous divisions that gain equally from the same input. The "ability-to-bear" approach of allocating overhead costs by the divisional earnings observable at the end of the period can be optimal in the scenario where divisions with higher profits benefit more from a common input.

5. "The Contribution of Small Business Loan Guarantees to Economic Development" Ted K. Bradshaw

This study examines the California State Loan Guarantee Program, which provided small business bank loans with guarantees to carefully chosen companies that otherwise would not have been able to acquire credit. The study monitored the actual change in employment at 1,166 businesses that obtained 1,515 loan guarantees between 1990 and 1996, at the height of the California recession. According to the report, employment rose by 27% among non-agricultural firms and by 40% overall in companies getting loan guarantees. Along with raising state tax receipts by $25.5 million, the initiative also saved the state $13 million in program costs. Only 2% of businesses getting loan guarantees experienced default.

2.3 Research Gaps and Questions

What is the most suitable finance source with the lowest interest rate for funding the expansion of the firm, considering the financial needs, risk profile, and repayment capability of the company?

2.4 Project Objectives

The main objective of this project is to find out the best suitable business loan for expansion purposes and to check whether the firm will be profitable or not after considering all the costs/expenses which will be incurred to run the firm.

2.5 Project Methodology

Primary Data:

The study is entirely based on Primary Data which has been collected through interactions with Personnel of the firm.

Secondary Data:

Secondary Data was collected through different websites, books, articles, etc.

2.6 Data Analysis and Discussion

1. **Initial Outflow Calculations**

The initial cost for an expansion project often refers to the costs involved in starting the expansion at the commencement of the project. This may include expenses for performing feasibility studies, engaging consultants or architects, and acquiring the required licenses and permits as well as costs related to the planning and design of the expansion.

This also includes costs of buying, renting, or leasing land or other property, as well as for investing in supplies and tools, as well as for recruiting more personnel. It might also include expenses for any necessary payments for legal counsel and insurance.

So, for this project of electro controls the initial cost of the project comes to Rs.1,78,12,000

Total Initial Required For the Project	
Initial Cost	₹ 1,78,12,000.00

"Initial Cost Calculation in Table 1 of Annexure"

2. Fixed Overhead Calculation

Fixed overheads are defined as costs that do not change with changes in activity or output levels. These are expenses that a company must pay whether or not the expansion project is successful. Rent, insurance premiums, property taxes, and administrative staff wages.

Regardless of how much a company produces or sells, it must continually pay fixed overhead expenditures. These costs are constant regardless of whether the business is running at full capacity or not since they are unaffected by variations in production or sales volume.

The total fixed overhead for the next 8 years comes to Rs.16,65,38,080. For the first 5 years, the rent is Rs.43000 per month, and later on, it is been increased by Rs.3000. whereas salaries & wages are been increased by 8% after every 3 years. Utilities and maintenance costs are kept constant throughout the year at their maximum.

Fixed Overhead	
Year	Amount
Year 1	₹ 1,94,72,000
Year 2	₹ 1,94,72,000
Year 3	₹ 1,94,72,000
Year 4	₹ 2,09,60,000
Year 5	₹ 2,09,60,000
Year 6	₹ 2,09,96,000
Year 7	₹ 2,26,03,040
Year 8	₹ 2,26,03,040
Total	₹ 16,65,38,080

"Fixed overhead Calculation in Table 2 of Annexure"

3. Depreciation Calculation

Depreciation is an accounting technique that distributes a tangible asset's cost over the course of its useful life. It represents the decrease in asset value over time as a result of wear and tear, aging, or obsolescence. Depreciation is frequently used for long-lasting assets including buildings, equipment, and cars.

Depreciation is used to distribute an asset's cost over the course of its useful life rather than deducting the entire cost in the year the item is purchased. This enables businesses to align the asset's cost with the income it produces over time. The income statement classifies the depreciation expense as an operational expense, which lowers the company's net income and taxable income.

The total Depreciation for the next 8 years comes to Rs.16,01,533.33. To calculate asset depreciation, the complete life of each asset is taken into consideration.

Total Depreciation	
Year	**Amount**
1	201221.43
2	201221.43
3	201221.43
4	201221.43
5	201221.43
6	201221.43
7	197888.10
8	196316.67
Total	1601533.33

"Depreciation Calculation in Table 3 of Annexure"

4. Loan structure

A loan is a financial arrangement in which a lender lends money to a borrower in exchange for the latter's promise to repay the debt with interest over a predetermined time frame. The interest rate, or the cost of borrowing the money, should be taken into account while selecting a loan.

Selecting a loan with the lowest interest rate possible is referred to as choosing the best available interest rate. The total sum of money you will have to repay the lender throughout the course of the loan will depend on the interest rate.

A low-interest rate can lower your overall borrowing costs by enabling you to save money on interest fees. Because your overall payment will be less, it may also be simpler to manage your monthly payments.

After analysing most of the available loans in the market, I have chosen a General term loan which is provided by the Economic Development Corporation of Goa (EDC) and was very much beneficial to the company as compared to all other bank loans.

EDC term Loan	
Loan Amount	Interest rate
Upto 50.00 lakh	Fixed 9.5%
Above 50 lakhs to 100 lakhs	9.5% to 11.5%
Above 100 lakhs	9.5% to 12.5%

After considering the financial strength of our company, we were eligible for the term loan at a 10.5% interest rate, additionally, we were eligible for getting a total rebate of 4% (2%- unit set up by Goan origin & 2% - more than 20 Goan employees employed in the company) for the repayment period of 8 years. So finally, we were eligible for the effective interest rate of 6.5% which was very less as compared to the other loans available.

Sources	Capital
EDC General Term Loan (65%)	₹ 1,15,77,800.00
Personal Earnings From HDFC Bank(35%)	₹ 62,34,200.00
Capital	**₹ 1,78,12,000.00**

"WACC Calculation in Table 4 of Annexure"

The proportion for the EDC term loan was 65% and 35% is the promoter's contribution. From the above table, we can see the amount distributed for the loan.

Loan Amount (EDC Gerneral Term Loan)	₹ 1,15,77,800
Interest Rate	6.5%
Repayment period	8

The interest was calculated on the total amount of the loan i.e. 1,15,77,800 at an effective interest rate of 6.5% for the period of 8 years. Also, I have calculated the monthly as well as annual installments payable according to each year. The below-mentioned table in the total interest payable for the next 8 years.

Interest Payable	
Years	**Interest**
1	₹ 7,52,557.00
2	₹ 6,58,487.38
3	₹ 5,64,417.75
4	₹ 4,70,348.13
5	₹ 3,76,278.50
6	₹ 2,82,208.88
7	₹ 1,88,139.25
8	₹ 94,069.63
Total	₹ 33,86,506.50

"Interest & Instalments Calculation in Table 5 of Annexure"

5. Estimated Cashflow

A company's projected cash inflows and outflows for a given time frame, usually a month, quarter, or year, are referred to as estimated cash flow. A financial statement that displays the anticipated sources and uses of cash for a company over a specific period is the estimated cash flow statement.

Information on cash inflows, such as revenue from sales, investments, and financing operations, is included in the anticipated cash flow statement. Additionally, it contains data on financial outflows, such as operational costs, capital investments, debt repayments, and dividend payments.

A business can forecast its future financial position and spot any potential cash surpluses or shortages by developing an estimated cash flow statement. This can assist the business in identifying areas where it might need to cut costs or boost income to enhance its cash flow. It can also help the business make educated decisions about financing, investment, and capital expenditure.

Years	Net Inflows
1	₹ 1,61,32,110.18
2	₹ 1,77,09,405.60
3	₹ 1,93,62,273.36
4	₹ 2,00,52,892.06
5	₹ 2,18,68,429.27
6	₹ 2,37,46,250.89
7	₹ 2,46,15,203.17
8	₹ 2,67,06,063.59
Total	₹ 17,01,92,628.13

"Estimated Cashflow Calculation in Table 6 of Annexure"

The estimated net Inflows are calculated after deducting variable cost, fixed overhead, depreciation, interest, and tax and also adding back the depreciation to the Profit after tax.

6. Profitability index

The profitability index (PI) is a financial ratio that evaluates future cash flows from a project about the cost of the initial investment. It is a helpful tool for determining whether an investment or project has the potential to be profitable.

The profitability index is calculated using the following formula:

PI = Initial Investment / Present Value of Cash Inflows

The future cash inflows of the project are discounted back to their present value using a suitable discount rate to determine the present value of the cash inflows. The cost of starting a project is the first investment.

A project is predicted to generate positive cash flows and has the potential to be profitable when the PI is greater than 1, and when the PI is less than 1, the project may not be viable and is likely to produce negative cash flows. When the PI is exactly 1, it means that the project is anticipated to provide cash inflows equal to the initial investment.

INITIAL OUTFLOW	**₹ 1,78,12,000.00**
TOTAL Discounted Inflows	**₹ 12,93,31,204.24**
NPV	**₹ 11,15,19,204.24**

Profitability Index	**7.260903**

"Profitability Index Calculation in Table 7 of Annexure"

After dividing the discounted inflows by the initial outflow, we get a profitability index of 7.26 which indicates that the project is progressing at a rate of 7 times the planned rate of progress, which is a very positive sign for the project's success.

7. Internal Rate of Return

The internal Rate of Return is referred to as IRR. IRR is a metric used to assess the potential profitability of an investment by figuring out the discount rate at which the investment's cash flows have a net present value (NPV) of zero.

The IRR is a measure of the rate of return on investment that investors might anticipate. The viability of the investment can be assessed by comparing it to a needed rate of return or a benchmark rate of return. It is stated as a percentage.

When the IRR is high, the investment is anticipated to be more profitable; nevertheless, when the IRR is low, the investment may not be as advantageous. However, in addition to the IRR, it's crucial to take other aspects into account when assessing an investment, such as its risk profile, liquidity, and general market circumstances.

When the IRR is 87%, a significant rate of return is anticipated from the investment. This shows that a high rate of return is anticipated from the investment, making it potentially a strong investment option.

INTERNAL RATE OF RETURN (IRR)	87%

"IRR Calculation in Table 8 of Annexure"

8. Sensitivity Analysis

Sensitivity analysis is a financial modeling technique that examines how changes to important parameters or hypotheses impact a financial model's output. It is a means for understanding the potential effects of uncertainties or risks connected to a project or investment and assessing the financial sustainability of the project under various scenarios.

Sensitivity analysis is frequently used in risk management, financial planning, and investment assessment to help decision-makers understand what is likely to happen in a project or investment and to help them make well-informed choices. Here we have checked the sensitivity of the project by increasing & decreasing the sales by 10%, increasing & decreasing the variable cost by 10%, and increasing and decreasing the fixed overhead by 10%.

"Sensitivity Analysis Calculation in Table 9 of Annexure"

3 Project 2 (Costing of the major products of Electro Controls)

3.1 Introduction

Costing of the major products of Electro Controls

One of the most important aspects of a company's financial management is how much its products cost. To decide the price at which the product should be offered in the market, the complete cost of manufacturing, including direct and indirect costs, must be calculated. This project will concentrate on examining and determining the costs of the company's four main goods. The business may make wise choices regarding pricing, production, and profitability by precisely calculating the expenses. The goal of this project is to give the company an in-depth understanding of the cost structure of its products so that it can make correct choices and boost its financial performance.

3.2 Literature Review

1. "The adaptation of product cost estimation techniques to estimate the cost of service"

Xiao Xi Huang, Linda B. Newnes, Glenn C. Parry (14 Sep 2011)

This article outlines a method for determining whether methods for predicting product costs may be modified to be used when calculating the costs of delivering a service. To determine how current cost estimation approaches are applied, the research methodology adopted involves a critique and study of the literature. The analysis of cost estimating methodologies teaches about cost estimation, especially for goods and services with specified benefits and downsides. The suggestion that services should use product costing techniques follows from this. The purpose of this article is to give suggestions on how product costing methodologies can benefit the service sector. Future directions are indicated by the gaps and difficulties in service costing that have been discovered.

2. ***"Manufacturing cost modeling for concurrent product development"*** E.M Shehab 1, H.S Abdalla (August 2001)

The objective of this research project is to create an intelligent, knowledge-based system that provides an environment for novice users to estimate a product's manufacturing costs at the conceptual design phase of the product life cycle. As a result, clients' expectations are met more quickly. This paper describes how the suggested approach for cost modeling of machining operations was developed. It incorporates cost estimation methodologies, a CAD solid modeling system, a user interface, material selection, process/machine selection, and material selection. In addition to determining the cost of the product, the system's primary purpose is to develop initial process planning, which involves the generation and selection of machining processes as well as their sequencing and machining parameters.

3. ***"Product Cost Estimation: Technique Classification and Methodology Review"*** Adnan Niazi, Jian S Dai, Stavroula Balabani, Lakmal Seneviratne (May 2006)

This study offers a thorough analysis of the state of the art in product cost estimating, encompassing numerous methods and strategies created over time. Techniques used in the whole study are divided into qualitative and quantitative categories. The quantitative techniques are further separated into parametric and analytical methods, while the qualitative techniques are further divided into intuitive and analogical methods. Then, with more subdivisions, each technique is defined and discussed in detail. The study also emphasizes the significance of cost estimation in the first stages of the design cycle and, as a result, briefly examines current developments and projected trends in the field. It also reviews field research that has been done about certain applications. The study offers a thorough assessment of the relevant literature and ought to be helpful to academics and professionals who are interested in this area.

4. ***"Investigating client's benefit and client's fulfillment by preparing cost sheet and cost assurance: A study on Amrita consumer food products Ltd. Barisal"*** Halder, Antara (2020- 2009)

This Paper is on a small or large firm that wants to price its goods or services and must first prepare a cost sheet. Due to frequent changes in political viewpoints and the transition to a globalized economy, social and economic situations are rapidly shifting throughout the world, especially in emerging nations. To compete in the global marketplace, a company must firmly stand on its products and be willing to take on challenges. The management of businesses today, which have expanded in size and complexity, is therefore superior to that of businesses before when there was little to no fierce rivalry. It represents the best overall result of work on "Preparation of Cost Sheet and Price Determination of Amrita Food Products". I primarily discuss the costing system for bread goods in this report. I've demonstrated how to calculate the prime cost, factory cost, production cost, and sales cost here. Here, we also attempted to demonstrate how to determine a product's profitability and selling price.

3.3 Research Gaps and Questions

Which is the most profitable product of the company?

3.4 Project Objectives

The main objective of this project is to identify all the costs related to the particular product and further find out the most profitable product of the company.

3.5 Project Methodology

Primary Data:

The study is entirely based on Primary Data which has been collected through interactions with Personnel of the firm.

Secondary Data:

Secondary Data was collected through different websites, books, articles, etc

3.6 Data Analysis and Discussion

Costing was done for four major products of the company. These four products were selected based on number of orders received. The company gets orders for these four products more often and in major quantities.

Product 1: Arc-fault circuit-interrupter (GFCI) breakers

Product 2: Neutral bus bar

Product 3: Ground Bus Bar

Product 4: Hot Bus Bars

From the cost sheet of the 4 major products of the company, it can be seen that the company's profit margin is 49-53%.

Product A gives a 50.5% profit

Product B gives a 52.8% profit

Product C gives a 49.6% profit

Product D gives a 52.5% profit

"Cost Sheets in Table 10 of Annexure"

4 Project Findings and Conclusion

After conducting an in-depth analysis of available loan schemes for expansion, I've found the best solutions that might work well for the firm. I was able to determine the most affordable and flexible loan that could support the company's expansion objectives by carefully reviewing the interest rates, repayment terms, and other aspects of the loan.

According to analysis, low-interest loan programs with flexible payback terms and adequate loan amounts are the best options for the organization. Before choosing an option, it is crucial to take into account all of these considerations.

In conclusion, the analysis of the cost structures of the company's four main products provided significant insight into the manufacturing process and profitability of the business. It determines the variables that affect production costs and the most economical ways to make each product by looking at the direct and indirect costs of each product.

This study found that while the cost structures of the four goods differed, the factors that influenced costs were similar across the board. The corporation may significantly reduce the cost of producing its products by concentrating on cutting overhead costs and streamlining manufacturing procedures, which will ultimately boost its bottom line.

5 Recommendations to the Company

1. Suggested to the company to expand its production line as soon as possible so that there is no pending order left to be fulfilled.
2. Suggested the company adopt a system like SAP to handle all the transactions in one place.
3. Research and develop new types of electric panels to stay competitive and increase market share.

4. Adopt new technological machines to manufacture to reduce the cost of labor.

6 Work done & Learnings derived during the internship period

1. Posting entries in the tally (Specially Purchase & sales)
2. Maintaining entries of Petty Cash in Excel.
3. Posting the entries of petty Cash into Tally software after verification is done.
4. Learned how to do E-invoicing on the portal.
5. Generating E-way bill.
6. Formed a master file of all their high-level customer with all the details.
7. Done the costing for the major products of the company.

7 Annexure

Project 1 Excel calculation link:
https://docs.google.com/spreadsheets/d/1d_9DvvXjgoCHB3ZKMJbP1NobU3etZ_-h/edit?usp=share_link&ouid=103331840879829619879&rtpof=true&sd=true

Project 2 Excel calculation link:
https://docs.google.com/spreadsheets/d/1Qaq0EHdSlzgp95kUdYlaTHodCf0PPS68/edit?usp=share_link&ouid=103331840879829619879&rtpof=true&sd=true

Table 1: Initial Cost Calculation

Items Required	Amount
licenses / Documentation	80000
Laptop / PC (42000*28)	1176000
Air Conditioner (35000*13)	455000
Furniture (desk,chairs,etc)	465000
Machinery & Equipments	1640000
Printer (17000*2)	34000
Security equipments	36000
Telephone System	20000
Tea & Coffee Vending Machine	14000
Networking Equipments (Internet,etc)	8000
Office Supplies	10000
Lighting & designing	120000
Cleaning Supplies	5000
Construction of New Production Unit	13000000
Vantilation facility (6500*12)	78000
Air Circulator Fan 100W (5000* 9)	45000
water Purifier	11000
Miscellenious	15000
Working Capital (200000*3)	600000
Total Outflow	**17812000**

Table 2: Fixed Overheads calculation

Fixed overhead:	Electro Control Pvt. Ltd							
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Rent **(43000 P.M for 1st 5 years and later increased by 3k)**	₹ 5,16,000.00	₹ 5,16,000.00	₹ 5,16,000.00	₹ 5,16,000.00	₹ 5,16,000.00	₹ 5,52,000.00	₹ 5,52,000.00	₹ 5,52,000.00
Salaries, Wages & Bonuses (Salaries are increased by 8% after 3 years)	₹ 1,86,00,000.00	₹ 1,86,00,000.00	₹ 1,86,00,000.00	₹ 2,00,88,000.00	₹ 2,00,88,000.00	₹ 2,00,88,000.00	₹ 2,16,95,040.00	₹ 2,16,95,040.00
Utilities (28000 per month)	₹ 3,36,000.00	₹ 3,36,000.00	₹ 3,36,000.00	₹ 3,36,000.00	₹ 3,36,000.00	₹ 3,36,000.00	₹ 3,36,000.00	₹ 3,36,000.00
Maintanance	₹ 20,000.00	₹ 20,000.00	₹ 20,000.00	₹ 20,000.00	₹ 20,000.00	₹ 20,000.00	₹ 20,000.00	₹ 20,000.00
Total	₹ 1,94,72,000.00	₹ 1,94,72,000.00	₹ 1,94,72,000.00	₹ 2,09,60,000.00	₹ 2,09,60,000.00	₹ 2,09,96,000.00	₹ 2,26,03,040.00	₹ 2,26,03,040.00

Table 3: Depreciation calculation

Items Required	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Life of Asset (Yrs)
Laptop / PC (42000*11)	46200.00	46200.00	46200.00	46200.00	46200.00	46200.00	46200.00	46200.00	10
Air Conditioner (35000*5)	14583.33	14583.33	14583.33	14583.33	14583.33	14583.33	14583.33	14583.33	12
Furniture (desk,chairs,etc)	18000.00	18000.00	18000.00	18000.00	18000.00	18000.00	18000.00	18000.00	10
Machinery	109333.33	109333.33	109333.33	109333.33	109333.33	109333.33	109333.33	109333.33	15
Printer	2250.00	2250.00	2250.00	2250.00	2250.00	2250.00	2250.00	2250.00	8
Security equipments	3200.00	3200.00	3200.00	3200.00	3200.00	3200.00	3200.00	3200.00	10
Telephone System	3333.33	3333.33	3333.33	3333.33	3333.33	3333.33			6
Tea & Coffee Vending Machine	1750.00	1750.00	1750.00	1750.00	1750.00	1750.00	1750.00	1750.00	8
Networking Equipments (Internet,etc)	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	8
water Purifier	1571.43	1571.43	1571.43	1571.43	1571.43	1571.43	1571.43		7
Total	201221.43	201221.43	201221.43	201221.43	201221.43	201221.43	197888.10	196316.67	

Table 4: WACC calculation

Sources	Cost Of Capital	Proportion	Tax	Opportunity Cost	Weighted Average Cost
EDC General Term Loan (65%)	₹ 1,15,77,800.00	0.65	0.3	0.0455	0.029575
Personal Earnings From HDFC Bank(35%)	₹ 62,34,200.00	0.35	0	0.075	0.02625
Capital	**₹ 1,78,12,000.00**	**1**			**5.58%**

WACC PM	**0.004652083**

Table 5: Interest and Instalments Calculation

Interest Rate	
Actual loan Interest Rate	10.50%
Less:Rebate for Unit set up by Goan Origin	2%
Employed More than 20 Goan employees	2%
Effective Interest Rate for EC	6.50%

Loan Amount (EDC Gerneral Term Loan)	₹ 1,15,77,800	
Interest Rate	6.5%	
Repayment period	8	

Interest Calculation

Years	Opening Balance	Principal Amount	Interest	Remaining Balance	Annual Installment	Monthly Installment
1	₹ 1,15,77,800	₹ 14,47,225.00	₹ 7,52,557.00	₹ 1,01,30,575.00	₹ 21,99,782.00	₹ 1,83,315.17
2	₹ 1,01,30,575.00	₹ 14,47,225.00	₹ 6,58,487.38	₹ 86,83,350.00	₹ 21,05,712.38	₹ 1,75,476.03
3	₹ 86,83,350.00	₹ 14,47,225.00	₹ 5,64,417.75	₹ 72,36,125.00	₹ 20,11,642.75	₹ 1,67,636.90
4	₹ 72,36,125.00	₹ 14,47,225.00	₹ 4,70,348.13	₹ 57,88,900.00	₹ 19,17,573.13	₹ 1,59,797.76
5	₹ 57,88,900.00	₹ 14,47,225.00	₹ 3,76,278.50	₹ 43,41,675.00	₹ 18,23,503.50	₹ 1,51,958.63
6	₹ 43,41,675.00	₹ 14,47,225.00	₹ 2,82,208.88	₹ 28,94,450.00	₹ 17,29,433.88	₹ 1,44,119.49
7	₹ 28,94,450.00	₹ 14,47,225.00	₹ 1,88,139.25	₹ 14,47,225.00	₹ 16,35,364.25	₹ 1,36,280.35
8	₹ 14,47,225.00	₹ 14,47,225.00	₹ 94,069.63	**₹ 0.00**	₹ 15,41,294.63	₹ 1,28,441.22
	Total	**₹ 1,15,77,800.00**	**₹ 33,86,506.50**		**₹ 1,49,64,306.50**	**₹ 12,47,025.54**

Table 6: Estimated Cashflow Calculation

Estimated Cashflow for Electro Control Pvt. Ltd.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Sales	**₹ 21,59,20,954.68**	**₹ 22,67,17,002.42**	**₹ 23,80,52,852.54**	**₹ 24,99,55,495.16**	**₹ 26,24,53,269.92**	**₹ 27,55,75,933.42**	**₹ 28,93,54,730.09**	**₹ 30,38,22,466.59**
Less: Variable Cost	₹ 17,27,36,763.75	₹ 18,13,73,601.93	₹ 19,04,42,282.03	₹ 19,99,64,396.13	₹ 20,99,62,615.94	₹ 22,04,60,746.74	₹ 23,14,83,784.07	₹ 24,30,57,973.28
Less: Fixed Overheads	₹ 1,94,72,000.00	₹ 1,94,72,000.00	₹ 1,94,72,000.00	₹ 2,09,60,000.00	₹ 2,09,60,000.00	₹ 2,09,96,000.00	₹ 2,26,03,040.00	₹ 2,26,03,040.00
PBITD	**₹ 2,37,12,190.94**	**₹ 2,58,71,400.48**	**₹ 2,81,38,570.51**	**₹ 2,90,31,099.03**	**₹ 3,15,30,653.98**	**₹ 3,41,19,186.68**	**₹ 3,52,67,906.02**	**₹ 3,81,61,453.32**
Less: Depreciation	₹ 2,01,221.43	₹ 2,01,221.43	₹ 2,01,221.43	₹ 2,01,221.43	₹ 2,01,221.43	₹ 2,01,221.43	₹ 1,97,888.10	₹ 1,96,316.67
PBIT	**₹ 2,35,10,969.51**	**₹ 2,56,70,179.05**	**₹ 2,79,37,349.08**	**₹ 2,88,29,877.60**	**₹ 3,13,29,432.56**	**₹ 3,39,17,965.26**	**₹ 3,50,70,017.92**	**₹ 3,79,65,136.65**
Less: Interest	₹ 7,52,557.00	₹ 6,58,487.38	₹ 5,64,417.75	₹ 4,70,348.13	₹ 3,76,278.50	₹ 2,82,208.88	₹ 1,88,139.25	₹ 94,069.63
PBT	**₹ 2,27,58,412.51**	**₹ 2,50,11,691.68**	**₹ 2,73,72,931.33**	**₹ 2,83,59,529.48**	**₹ 3,09,53,154.06**	**₹ 3,36,35,756.38**	**₹ 3,48,81,878.67**	**₹ 3,78,71,067.03**
Less: Tax	₹ 68,27,523.75	₹ 75,03,507.50	₹ 82,11,879.40	₹ 85,07,858.84	₹ 92,85,946.22	₹ 1,00,90,726.91	₹ 1,04,64,563.60	₹ 1,13,61,320.11
PAT	**₹ 1,59,30,888.76**	**₹ 1,75,08,184.18**	**₹ 1,91,61,051.93**	**₹ 1,98,51,670.64**	**₹ 2,16,67,207.84**	**₹ 2,35,45,029.47**	**₹ 2,44,17,315.07**	**₹ 2,65,09,746.92**
Add: Depreciation	₹ 2,01,221.43	₹ 2,01,221.43	₹ 2,01,221.43	₹ 2,01,221.43	₹ 2,01,221.43	₹ 2,01,221.43	₹ 1,97,888.10	₹ 1,96,316.67
NET INFLOWS	₹ 1,61,32,110.18	₹ 1,77,09,405.60	₹ 1,93,62,273.36	₹ 2,00,52,892.06	₹ 2,18,68,429.27	₹ 2,37,46,250.89	₹ 2,46,15,203.17	₹ 2,67,06,063.59

Table 7: Profitability Index

Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
NET INFLOWS	**₹ 1,61,32,110.18**	**₹ 1,77,09,405.60**	**₹ 1,93,62,273.36**	**₹ 2,00,52,892.06**	**₹ 2,18,68,429.27**	**₹ 2,37,46,250.89**	**₹ 2,46,15,203.17**	**₹ 2,67,06,063.59**
P.V Factor @ 6%	0.9434	0.89	0.8396	0.7921	0.7473	0.705	0.6651	0.6274
Discouted Inflow	**₹ 1,52,19,032.75**	**₹ 1,57,61,370.99**	**₹ 1,62,56,564.71**	**₹ 1,58,83,895.80**	**₹ 1,63,42,277.19**	**₹ 1,67,41,106.88**	**₹ 1,63,71,571.63**	**₹ 1,67,55,384.29**

INITIAL OUTFLOW	**₹ 1,78,12,000.00**
TOTAL Discounted Inflows	**₹ 12,93,31,204.24**
NPV	**₹ 11,15,19,204.24**
Profitability Index	**7.260903**

Table 8: Internal Rate of Return Calculation

INTERNAL RATE OF RETURN								
-₹ 1,78,12,000.00	₹ 1,51,88,089.23	₹ 1,57,32,178.99	₹ 1,62,29,025.83	₹ 1,58,57,914.92	₹ 1,63,17,765.75	₹ 1,67,17,982.88	₹ 1,63,49,756.35	₹ 1,67,34,805.57
INTERNAL RATE OF RETURN (IRR)	87%							

Table 9: Sensitivity Analysis Calculation

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Sales increased by 10%								
Sales	₹ 23,75,13,050.15	₹ 24,93,88,702.66	₹ 26,18,58,137.79	₹ 27,49,51,044.68	₹ 28,86,98,596.92	₹ 30,31,33,526.76	₹ 31,82,90,203.10	₹ 33,42,04,713.25
PBT	₹ 4,43,50,507.98	₹ 4,76,83,391.92	₹ 5,11,78,216.58	₹ 5,33,55,079.00	₹ 5,71,98,481.05	₹ 6,11,93,349.72	₹ 6,38,17,351.68	₹ 6,82,53,313.69

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Variable cost decreased by 10%								
Variable Cost	₹ 15,54,63,087.37	₹ 16,32,36,241.74	₹ 17,13,98,053.83	₹ 17,99,67,956.52	₹ 18,89,66,354.34	₹ 19,84,14,672.06	₹ 20,83,35,405.66	₹ 21,87,52,175.95
PBT	₹ 4,00,32,088.88	₹ 4,31,49,051.87	₹ 4,64,17,159.53	₹ 4,83,55,969.09	₹ 5,19,49,415.65	₹ 5,56,81,831.05	₹ 5,80,30,257.08	₹ 6,21,76,864.35

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Fixed Overheads decreased by 10%								
Fixed Overheads	₹ 1,75,24,800.00	₹ 1,75,24,800.00	₹ 1,75,24,800.00	₹ 1,88,64,000.00	₹ 1,88,64,000.00	₹ 1,88,96,400.00	₹ 2,03,42,736.00	₹ 2,03,42,736.00
PBT	₹ 2,47,05,612.51	₹ 2,69,58,891.68	₹ 2,93,20,131.33	₹ 3,04,55,529.48	₹ 3,30,49,154.06	₹ 3,57,35,356.38	₹ 3,71,42,182.67	₹ 4,01,31,371.03

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Sales decreased by 10%								
Sales	₹ 19,43,28,859.21	₹ 20,40,45,302.18	₹ 21,42,47,567.28	₹ 22,49,59,945.65	₹ 23,62,07,942.93	₹ 24,80,18,340.08	₹ 26,04,19,257.08	₹ 27,34,40,219.94
PBT	₹ 11,66,317.04	₹ 23,39,991.44	₹ 35,67,646.08	₹ 33,63,979.96	₹ 47,07,827.06	₹ 60,78,163.04	₹ 59,46,405.66	₹ 74,88,820.37

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Variable Cost increased by 10%								
Variable Cost	₹ 19,00,10,440.12	₹ 19,95,10,962.13	₹ 20,94,86,510.23	₹ 21,99,60,835.75	₹ 23,09,58,877.53	₹ 24,25,06,821.41	₹ 25,46,32,162.48	₹ 26,73,63,770.60
PBT	₹ 54,84,736.13	₹ 68,74,331.49	₹ 83,28,703.13	₹ 83,63,089.87	₹ 99,56,892.46	₹ 1,15,89,681.71	₹ 1,17,33,500.27	₹ 1,35,65,269.70

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Fixed Overheads increased by 10 %								
Fixed Overheads	₹ 2,14,19,200.00	₹ 2,14,19,200.00	₹ 2,14,19,200.00	₹ 2,30,56,000.00	₹ 2,30,56,000.00	₹ 2,30,95,600.00	₹ 2,48,63,344.00	₹ 2,48,63,344.00
PBT	₹ 2,08,11,212.51	₹ 2,30,64,491.68	₹ 2,54,25,731.33	₹ 2,62,63,529.48	₹ 2,88,57,154.06	₹ 3,15,36,156.38	₹ 3,26,21,574.67	₹ 3,56,10,763.03

Table 10: Cost sheet

A				
Arc-fault circuit-interrupter (GFCI) breakers 10000 units				
Particulars	**Details**	**Total Cost**	**Cost/Unit**	
Direct material (Raw Material Consumed):		2,26,240.00	22.624	VC
Prime Cost		**2,26,240.00**	**22.624**	
Add: Factory Overhead:				
Wages to factory workers		2,41,000.00	24.1	VC
Depreciation on machinery	15%	60,000.00	6.0	FC
factory electricity bill	4.3	89,600.00	8.96	VC
repairs and maintenance of machinery		36,600.00	3.66	VC
Works cost		**4,27,200.00**	**42.72**	
Add: office and administrative overhead:				
Office cleaning		2,500.00	0.25	FC
depreciation on office computers	20%	3,420.00	0.342	FC
office telephone and internet bill	2% OF WC	8,544.00	0.8544	VC
Personnel		82,170.00	8.217	FC
office stationary	1% OF WC	4,272.00	0.4272	VC
legal charges	2% OF WC	8,544.00	0.8544	FC
Canteen		7,600.00	0.76	FC
Building Maintenance		8,450.00	0.845	FC
cost of production of goods sold		**5,52,700.00**	**55.27**	
Add: selling and distribution overhead:				
warehouse rent		10,000.00	1	FC
Packing material		30,900.00	3.09	VC
total cost/cost of goods sold		**5,93,600.00**	**59.36**	
profit/loss		6,06,400.00	60.64	50.5%
sales		12,00,000.00	120	

B				
cost sheet neutral bus bar 10000 units				
Particulars	**Details**	**Total Cost**	**Cost/Unit**	
Direct material (Raw Material Consumed):		3,80,020.00	38.002	VC
Prime Cost		**3,80,020.00**	**38.002**	
Add: Factory Overhead:				
Wages to factory workers		2,41,000.00	24.1	VC
Depreciation on machinery	15%	1,08,900.00	10.9	FC
factory electricity bill	4.3	87,000.00	8.7	VC
repairs and maintenance of machinery		54,000.00	5.4	VC
Works cost		**8,70,920.00**	**87.092**	
Add: office and administrative overhead:				
Office cleaning		2,500.00	0.25	FC
depreciation on office computers	20%	3,420.00	0.342	FC
office telephone and internet bill	2% OF WC	17,418.40	1.74184	VC
Personnel		82,170.00	8.217	FC
office stationary	1% OF WC	8,709.20	0.87092	VC
legal charges	2% OF WC	17,418.40	1.74184	FC
Canteen		7,600.00	0.76	FC
Building Maintenance		8,450.00	0.845	FC
cost of production of goods sold		**10,18,606.00**	**101.8606**	
Add: selling and distribution overhead:				
warehouse rent		10,000.00	1	FC
Packing material		52,910.00	5.291	VC
total cost/cost of goods sold		**10,81,516.00**	**108.1516**	
profit/loss		12,08,484.00	120.8484	52.8%
sales		22,90,000.00	229	

C				
cost sheet of Ground Bus Bar 10000 units				
Particulars	**Details**	**Total Cost**	**Cost/Unit**	
Direct material (Raw Material Consumed):		3,44,320.00	34.432	VC
Prime Cost		**3,44,320.00**	**34.432**	
Add: Factory Overhead:				
Wages to factory workers		2,41,000.00	24.1	VC
Depreciation on machinery	15%	56,300.00	5.6	FC
factory electricity bill	4.3	86,200.00	8.62	VC
repairs and maintenance of machinery		28,000.00	2.8	VC
Works cost		**7,55,820.00**	**75.582**	
Add: office and administrative overhead:				
Office cleaning		2,500.00	0.25	FC
depreciation on office computers	20%	3,420.00	0.342	FC
office telephone and internet bill	2% OF WC	15,116.40	1.51164	VC
Personnel		82,170.00	8.217	FC
office stationary	1% OF WC	7,558.20	0.75582	VC
legal charges	2% OF WC	15,116.40	1.51164	FC
Canteen		7,600.00	0.76	FC
Building Maintenance		8,450.00	0.845	FC
cost of production of goods sold		**8,97,751.00**	**89.7751**	
Add: selling and distribution overhead:				
warehouse rent		10,000.00	1	FC
Packing material		29,500.00	2.95	VC
total cost/cost of goods sold		**9,37,251.00**	**93.7251**	
profit/loss		9,22,749.00	92.2749	49.6%
sales		18,60,000.00	186	

D				
cost sheet of Hot Bus Bars 10000 units				
Particulars	**Details**	**Total Cost**	**Cost/Unit**	
Direct material (Raw Material Consumed):		2,11,000.00	21.1	VC
Prime Cost		**2,11,000.00**	**21.1**	
Add: Factory Overhead:				
Wages to factory workers		2,41,000.00	24.1	VC
Depreciation on machinery	15%	65,300.00	6.5	FC
factory electricity bill	4.3	72,200.00	7.22	VC
repairs and maintenance of machinery		32,500.00	3.25	VC
Works cost		**6,22,000.00**	**62.2**	
Add: office and administrative overhead:				
Office cleaning		2,500.00	0.25	FC
depreciation on office computers	20%	3,420.00	0.342	FC
office telephone and internet bill	2% OF WC	12,440.00	1.244	VC
Personnel		82,170.00	8.217	FC
office stationary	1% OF WC	6,220.00	0.622	VC
legal charges	2% OF WC	12,440.00	1.244	FC
Canteen		7,600.00	0.76	FC
Building Maintenance		8,450.00	0.845	FC
cost of production of goods sold		**7,57,240.00**	**75.724**	
Add: selling and distribution overhead:				
warehouse rent		10,000.00	1	FC
Packing material		30,890.00	3.089	VC
total cost/cost of goods sold		**7,98,130.00**	**79.813**	
profit/loss		8,81,870.00	88.187	52.5%
sales		16,80,000.00	168	

8 Reference

Books

- Financial Management – I. M. Pandey
- Management Accounting – M Y Khan, P K Jain

Website

- http://www.electrocontrols.co.in/
- https://www.myaccountingcourse.com/
- https://theinvestorsbook.com/