

# **A STUDY ON BUDGETARY CONTROL MANAGEMENT WITH REFERENCE TO SIGMA FINE ARTS, SIVAKASI**

Submitted in partial fulfillment of the requirements for the award of

**MASTER OF BUSINESS ADMINISTRATION**

by

**MOTHILAL.K**

**Register No.41410203**



**SCHOOL OF MANAGEMENT STUDIES**

**SATHYABAMA**

**INSTITUTE OF SCIENCE AND TECHNOLOGY**

**(DEEMED TO BE UNIVERSITY)**

**Accredited with Grade "A" by NAAC | 12B Status by UGC | Approved by AICTE**

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**MAY 2023**



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### BONAFIDE CERTIFICATE

This is to certify that this Project Report is the Bonafide work of **MOTHILAL.K(41410203)** who carried out the project entitled "**A Study on budgetary control management with reference to sigma fine arts, Sivakasi**" under my supervision from January 2023 to March 2023.

M.L.

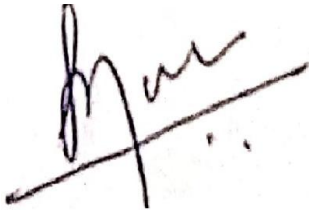
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## DECLARATION

I **MOTHILAL.K(41410203)** hereby declare that the Project Report entitled “**A Study on budgetary control management with reference to sigma fine arts, Sivakasi**” done by me under the guidance of **DR.M. LAVANYA** is submitted in partial fulfillment of the requirements for the award of Master of Business Administration degree.

**DATE: 05.05.2023**

**PLACE:Chennai**



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**MOTHILAL.K**

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**MOTHILAL.K**

## TABLE OF CONTENTS

| CHAPTER | PARTICULARS                      | PAGES |
|---------|----------------------------------|-------|
| I       | Introduction                     | 10-13 |
|         | Industry Profile                 | 14-17 |
|         | Company Profile                  | 17-18 |
| II      | Review of Literature             | 19-29 |
| III     | Research methodology             | 30-33 |
| IV      | 4.1 Need for the study           | 34    |
|         | 4.2 Scope of the Study           | 35    |
|         | 4.3 Objectives                   | 35    |
| V       | Data analysis and interpretation | 36-65 |
| VI      | 6.1 Findings                     | 66    |
|         | 6.2 Suggestions                  | 67    |
| VII     | Conclusion                       | 68    |
|         | References                       | 69-70 |
|         | Annexure                         | 71-82 |

## TABLE CONTENTS

| TABLE NO | PARTICULARS               | PAGES |
|----------|---------------------------|-------|
| 1        | Changes in Payback period | 36-38 |
| 2        | Net present value method  | 39-41 |
| 3        | Average Rate of Return    | 41-43 |
|          | <b>Trend analysis</b>     | 44-50 |
| 4        | Investments               | 44    |
| 5        | Fixed asset               | 46    |
| 6        | Current assets            | 48    |
|          | <b>Variance analysis</b>  | 51-65 |
| 7        | Income variance           | 51    |
| 8        | Profit variance           | 56    |
| 9        | Linear regression         | 61    |
| 10       | Time series analysis      | 63    |

### CHART CONTENTS

| TABLE NO | PARTICULARS               | PAGES |
|----------|---------------------------|-------|
| 1        | Changes in Payback period |       |
| 2        | Net present value method  |       |
| 3        | Average Rate of Return    |       |
|          | <b>Trend analysis</b>     |       |
| 4        | Investments               |       |
| 5        | Fixed asset               |       |
| 6        | Current assets            |       |
|          | <b>Variance analysis</b>  |       |
| 7        | Income variance           |       |
| 8        | Profit variance           |       |
| 9        | Time series analysis      |       |

## **ABSTRACT**

The key function of the financial management is the selection of the most profitable assortment of capital investment and it is the most important area of decision making of the financial manager because any action taken by the manager in this area affects the working and the profitability of the firm for many years to come.

The objective of the research is to study on budgetary control through which to stress the importance of capital budgeting in an organization and to analyse the capital budgeting process to be adopted by the company in order to take better investment decisions for various business projects.

Further, it caters information about cash inflows and outflows of various years. Thus the comparison provides clear idea about investments and return on the same which can be helpful for the years to come.

The analyses have been done by the data collected from income and expenditure statements and balance sheet report. Capital budgeting techniques like Net Present Value method, Rate of Return method and Payback Period method and forecasting tools like Variance analysis, trend analysis and time series are used in this project

## **CHAPTER 1**

### **INTRODUCTION TO THE STUDY**

#### **1.1 Budgetary control:**

Budget is an instrument used by an organisation in the achievement of its purpose of matching plans with resources available. The primary function of budget is to provide management with a projection of the activities necessary to reach the established goals. Budget also serves as a control device. A budget is a detailed plan for acquiring and using financial and other resources over a specified period of time. It represents a plan for the future expressed in formal quantitative terms. The act of preparing a budget is called budgeting. The use of budgeting to control a firm's activities is called budgetary control.

Budget requires coordination throughout the organisation. Each department or unit within the organisation is responsible to prepare its part of the budget, which is then coordinated with the overall company budget. Budget assigns responsibility to the management in each unit. Budgeting is an integral part of planning process. Successful companies plan for their futures through the discipline of preparing an annual business plan, stipulating their financial and quantitative goals and strategies.

Budgetary control is a useful management control device.

#### **It performs the following important functions:**

1. Budgets present the objectives, plans and programmes of the enterprise and express them in financial and/or quantitative terms in the organisation.
2. Budgets serve as job descriptions. They define the tasks, which have to be performed at various levels in the organisation.
3. Budgetary control involves continuous comparison of actual results with the planned ones and taking corrective actions in the organisation.

Budgets are not only a means of control; they also help the managers in performing other functions of management. Budgeting is closely associated with planning, organising and directing. It also helps in pointing deviations from the planned results. When these deviations are reported to manager, he can control them in time in the organisation.

Objectives of Budgetary Control:

The main purpose of budgetary control is to enable the management to conduct the business in the most efficient manner in the organisation.

According to John Blocker, **“Budgetary control is planned to assist the management the allocation of responsibilities and authority, to aid in making estimates and plans for future, to assist in analysis of various between estimated and actual results and to develop basis of measurement or standards with which to evaluate the efficiency of operations.”**

In other words, the budgetary control device in the organisation encompasses practically the whole range of management activities right from planning and policy formulation to the final function of control over various activities of the manufacturing enterprise.

**Budgetary control has the following specific objectives:**

**1. Planning:**

Budgets are the plans to be pursued during the designed period of time to attain certain objectives in the organisation. Budgetary control will force the management at all levels to plan various activities well in advance in the organisation.

Budgets are generally drawn on the basis of forecasts made about market forces, supply conditions and consumer's preferences in the organisation. This help in making and revising business policies in the organisation.

## **2. Control:**

Budgetary control is an important instrument of managerial control in any enterprise. Budgetary control helps in comparing the performance of various individuals and departments with the predetermined standards laid down in various budgets.

Budgetary control reports the significant variations from the budgets to the top management in the organisation. Since separate budgets are prepared for each department becomes easier to determine the weak points and the sources of waste of time, money and resources.

## **3. Coordination:**

Budgetary control involves the participation of a master budget, which helps in bringing effective coordination among different departments of a business enterprise in the organisation. It forces the executive to make plans as a group in the organisation. Delays involved in the red tapism and discussing matters with one another sets procedural wrangles aside.

## **4. Increase in Efficiency:**

Budgetary controls lay down the standards of production, sales, costs and overheads taking into consideration various internal and external factors. This compels and stimulates every department to attain maximum efficiency over the use of men, machine, material, methods and money.

## **5. Financial Planning:**

Budgets are generally expressed in financial terms in the organisation. They provide the estimates of expenditures and revenues in the organisation. This helps the management to make plans about the flow of cash in such a way that it would never run short of working capital in the organization. Cash budget is also useful to convince the financial institution that their loans will be paid back in time.

Benefits of Budgetary Control:

**Business enterprises can obtain the following advantages from efficient system of budgetary control:**

1. Budgeting is an all-inclusive management tool. It integrates and ties together various organisational activities in the organization right from planning to control.
2. Budgets provide standards against which actual performance can be measured. This helps in taking corrective action, which is an important part of controlling.
3. Budgets are an important tool to coordination in the organisation. In preparation of various budgets, knowledge, skill and experience of many executives are combined and business plans are reduced into concrete numerical terms in the organisation. This leads to proper coordination of the efforts of various departments of the enterprise in the organisation.
4. Budgeting in the organisation helps in reducing unproductive operations by minimizing waste of resources. Budgets are prepared after considerable thought and are directed towards certain aims and objectives.
5. Budgeting in the organisation makes financial planning and control easy. The ultimate effect of budgeting is the thorough examination and scrutinizing the financial aspect of the business enterprise. This helps in optimum use of financial resources of the enterprise.
6. Budgetary control in the organisation facilitates 'control by exception'. It helps in focusing the time and effort of the managers upon areas, which are most important for the survival of the organisation.
7. Budgeting in the organisation is an important device for fixing the responsibility of various positions. The persons occupying various positions can be made to understand their responsibilities with the help of budgets.

#### **Limitations of Budgetary Control:**

1. Too much emphasis on budgeting in the organization may bring about rigidity in the enterprise. It may deprive the managers of the flexibility they require in managing their departments.

2. Budgeted estimates in the organisation are generally based on the price level at a particular period of time. These estimates may become useless when there is either inflation or depression in the market.
3. Sometimes budgets in the organization are tested as an end in themselves. Some people may be extra cautious to function within the boundaries of budget figures rather than achieving the enterprise objectives.
4. A budget, which allows liberal expenditure, may be used to hide inefficiency. For instance, a department may be inefficient even though its expenses are within the budget limits in the organisation.
5. Budgetary control in itself does not prevent deviation from appearing. It neither ensures satisfactory results nor control automatically in the organisation. A deliberate effort has to be made in this direction in the organisation.
6. Budgetary control in the organisation requires expenditure of time, money and effort. Moreover, it is not easy to prepare various kinds of budgets in the organisation because of obvious difficulties in forecasting to be used in budgeting.

### **Essential of Effective Budgetary Control:**

**Following are requirements of a good system of budgetary control: in the organisation**

#### **1. Quick Reporting:**

A good system of budgetary control in the organisation requires the establishment of such procedures, which will provide reports on the performance of various operations. The reports should reach the persons concerned with the implementation of budgets without any delay so that quick actions may be taken wherever necessary in the organization.

## **2. Detailed Organization Structure:**

There should be a detailed organization structure with precisely designed authorities, responsibilities and lines of communication so that everybody in the organisation understands the significance of objectives in detail.

## **3. Frequent Comparison:**

There should be frequent comparison between budget estimates and operating results in the organisation. Alford and Beatty are of opinion that careful analysis of both operating results and budget estimates is the essence of budgetary control in the organisation.

## **4. Definite Plan:**

There should be comprehensive planning in the enterprise. All the operations in the organisation should be planned in clear terms. The administration of the budgets should also be properly planned in the organisation. It must be pre-determined who is to be held responsible for the implementation of budget in the organisation.

## **5. Responsibility Matched by the Authority:**

Those assigned with the responsibility to implement the budgets should also be given the necessary authority to achieve the budgeted targets in the organisation. Lack of sufficient authority will make the implementation of budgets ineffective in the organisation.

## **6. Participation:**

The purpose of budgetary control is to achieve coordination of various functions of the business in the organisation. Therefore, it is essential that participation up to the lowest level in the enterprise be ensured to make the people committed to the budgets. Everybody in the organisation should understand his role in achieving the budgeted targets.

## **7. Support of the Management:**

The top management in the organisation supports a good system of budgetary control. Top management in the organisation should take the preparation of budgets and their implementation seriously in order to achieve the objectives of the enterprise.

## **8. Flexibility:**

Budgets should not be rigid, but flexible enough to allow altering or remodelling in the light of any change in circumstances in the organization. Budgets are a means to an end. They must be flexible to achieve the desired objectives in the organisation. A good system of budgetary control allows sufficient flexibility to the persons concerned with the implementation of budgets in the organisation.

## **Precautions in the Use of Budgets:**

**Following precautions could be taken while preparing and using budgets for the purpose of managerial planning and control:**

1. Estimates are not too high to be attained in the organisation.
2. Budgets are not prepared and installed hurriedly in the organization.
3. Administration and supervision of the operations are not insufficient in the organisation.
4. Organisational structure is not defective in the organisation.
5. Accounting and cost systems are not inadequate in the organisation.
6. Statistics of past operations are not inadequate and unreliable in the organisation.
7. Results are not expected in too short period in the organisation.

## **Control through Costing:**

Costing is concerned with cost determination and indicates what is the approximate cost of a process or a product under existing conditions in the organisation. Control through costing involves the control over costs in the light of certain predetermined costs usually

known as standard costs in the organisation. Standard costs are predetermined operation costs computed to reflect quantities, prices and level of operations in the organisation.

**Control through standard costing involves the following steps:**

1. The standards are fixed for different components of cost separately in the organisation.
2. Determining the actual costs to make a comparative study in the organisation.
3. A comparison between standard costs and actual costs is made in order to find out the variation between the two in the organization.
4. If the variation is beyond the specified limit, an attempt is made to locate the reasons for such a variation in the organisation.
5. In the light of the reasons identified, further course of action is planned so that in future there is no such variation in the organisation.

## **1.2 INDUSTRY PROFILE**

### **The Printing Industry in India**

- As the economy in India has grown, there is an increased need to buy printers, consumables such as inks and makeups and cleaning solutions.
- India is quickly establishing itself as a major print producer and manufacturer of printed paper products for international markets. Quality standards are significantly improving, and massive production facilities have been developed. Most printers have been awarded for their work by winning awards at international printing competitions.
- The estimated annual turnover of the Indian printing industry, including all parts, is more than Rs.50,000 crores. That's about \$11 billion in US dollars.

- Over 250,000 printing companies make up India's printing industry, which is rising at a rate of 12% per year. The company's current annual revenue exceeds INR 50,000 crores (US\$11 billion). India has the most printing presses of any country in the world.
- As a result, more people in India are looking for printers for sale whether from domestic sources or via imports.

## INDIAN PRINTING INDUSTRY – ADAPTING TO THE NEW TRENDS & DEVELOPMENTS!

The value of the print industry across India was over 225 billion Indian rupees in 2021. This is further expected to exceed 250 billion rupees by 2024, indicating a compound annual growth of around 3 percent.

As organisations fast-tracked digital transformation and customers embraced digital experiences during the pandemic, the print industry has experienced an irrevocable shift over the past year. Print and digital convergence demands that print industry leaders urgently reinvent their business models. A legacy of success based on traditional models means little in today's business landscape, which is driven by experiences rather than products alone.

### CONVERGENCE IN PRINT

A recent HP sponsored study by NapcoResearch on 'Convergence in Print' concluded that the most popular segment that printers are migrating to is the Label Segment. While in the last few years, the label printers with their flexo presses having wider webs and inline finishing had ventured into many new applications including folding cartons, sachets, pouches, lami tubes, flexible Electronics, promotional products etc., the arrival of the faster and wider digital print engine has totally transformed the label world and empowered the printer to offer many new applications. The faster speeds have not only aided the addition of the inline finishing on the digital presses, it has also helped them go hybrid with added flexo print units.

Ability of both the Flexo and Digital technologies to print on a wide range of substrates is a great driver of convergence. The growing print enhancement and embellishment techniques available in these technologies are also lending to the emerging of newer

and often high value applications. Coding and Marking that works on Inkjet technology converges seamlessly with Digital Printing.

As organisations fast-tracked digital transformation and customers embraced digital experiences during the pandemic, the print industry has experienced an irrevocable shift over the past year. Print and digital convergence demands that print industry leaders urgently reinvent their business models. A legacy of success based on traditional models means little in today's business landscape, which is driven by experiences rather than products alone.

The main takeaway is that modern printing platforms are highly flexible and well suited for a wide range of applications from multiple short runs to medium and even long runs and provide the technological foundation for the printers seeking migration to different segments due to varied commercial reasons.

### **1.3 COMPANY PROFILE**

Sigma Fine Arts was established in 1985 when a small print shop opened its doors in Sivakasi with the simple and clear aim of providing a high quality printing service to their customers. Little more than ten years later and that small print shop has become one of the leading printers in the city. They make all types of boxes and meet the expectations of the customers. In spite of the digitization of work, a fact of life for almost any company is the need for paperwork to keep things running smoothly. Hence, whether it's order forms, receipt blanks, brochures, advertising, or letterheads, a business that provides printing services will be able to help. Since the demand by each customer of printing services and its products will be different as it has its unique needs, Sigma fine arts will work with each one on an individual basis to design and produce materials that meets its specific requirements and budget.

## CHAPTER 2

### Review of Literature

**Susan F. Haka, Michigan State University, USA (2018)** has studied “Capital budgeting and investment appraisal” and historical appraisal of the development of current capital budgeting practices and reviews capital budgeting academic research. He has explained modern capital budgeting and its processes. In the late eighteenth and early nineteenth centuries, the industrial revolution was instrumental in creating demand for capital budgeting processes and techniques. Academic research, beginning in the late 1940s and early 1950s, is categorized by its focus on appraisal techniques, individual decision-maker effects, organizational issues, and environmental factors. Experimental, analytical, agency-based, survey-based, and case-based research is reviewed. His study concluded with a compilation of issues identified by academic research and a set of questions that have not yet been addressed.

**Davina F. Jacobs (2019)** is a senior economist in the Fiscal Affairs Department has done a research on capital budgeting practices. His study argues that the key challenge in government budgeting is to define an appropriate balance between current and capital expenditures. Budgeting for government capital investment also remains not well integrated into the formal budget preparation process in many countries. Hence, the research has been prepared with an aim to provide an overview of past and current budgeting practices for public investment. The study will also provide a comparison between the budget practices between low-income countries and developed countries and make a series of recommendations for how to ensure efficient integration of capital planning and budget management in low-income countries.

**Niels Hermes, Peter Smid and Lu Yao (2011)** Faculty of Management and Organization, University of Groningen and Faculty of Economics, University of Groningen, The Netherlands, have made a study on “Capital budgeting practices: A comparative study of the Netherlands and China”. The paper compares the use of capital budgeting techniques of Dutch and Chinese firms, using data obtained from a survey among 250 Dutch and 300 Chinese companies. It aims to analyze the use of

capital budgeting techniques by companies in both countries from a comparative perspective to see whether economic development matters.

The empirical analysis provides evidence that Dutch Chief Financial Officers on average use more sophisticated capital budgeting techniques than Chinese CFOs do. At the same, however, the result suggests that the difference between Dutch and Chinese firms is smaller than expected based upon the differences in the level of economic development between both countries, at least with respect to the use of methods of estimating the cost of capital and the use of CAPM as the method of estimating the cost of equity.

#### **Journals and Articles:**

##### **1. International Journal of Innovative Research in Information Security (IJIRIS)**

**Title: THE ROLE OF BUDGET AND BUDGETARY CONTROL ON ORGANISATIONAL PERFORMANCE: A CASE STUDY OF TAHIR GUEST HOUSE, KANO STATE, NIGERIA**

Budgeting is an indispensable tool in the hospitality industry-which has profit maximization as its goal and this can only be realized when resources are properly planned and controlled with the required commitment and expertise. Hotel accommodation in Nigeria is facilitated mostly by the corporate sector, with booking for conferences and meetings demand being highest. Whilst there has been rapid growth in the Nigerian hotel industry in the last decade, it is still in its infancy as the National Bureau for Statistics (2019) posited that the hotels and restaurant sub-sector contributes a mere 0.55 per cent to the Gross Domestic product (GDP). However, the major reason for this insignificant contribution to the GDP has been linked to poor budgeting process and internal control within the players in the industry. This paper therefore researched into the role of budget and budgetary control on organizational performance: a case study of Tahir Guest Palace, Kano. The study made use of both the primary and the secondary data. The instrument for the collection of the primary data was the questionnaire administered, while the secondary data was obtained via the

financial statements of Tahir Guest Palace from 2018-2021. A total of 278 staff was sampled using the purposive sampling technique, and data obtained was subjected to regression analysis. Result revealed that budget administration, budget target setting and budget process all have significant impact on organizational performance. The research work therefore, recommend that;

- (i) the top level management of Tahir guest palace should maintain appropriate standard on budget administration and preparation, and budget process. Specifically, the use of the current budget process on previous budget performance should be emphasized in measuring performance year in year out, as this will enable the management to monitor the organizational growth and or performance as budgeted;
- (ii) (ii) the staff of various cadres at Tahir guest palace should also be allowed to participate in the budget target setting and process to further enhance the organizational performance. If the above recommendations are implemented it will not only increase the organizational performance of Tahir Guest Palace but will also lead to increase in subordinates efforts and task performance.

## **CONCLUSION AND RECOMMENDATIONS**

Based on the findings of this research work, this study therefore recommend:

1. That the top level management of Tahir Guest Palace should maintain appropriate standard on budget administration, preparation, and budget process. Specifically, the use of the current budget process on previous budget performance should be emphasized in measuring performance year in year out, as this will enable the management to monitor its growth and or performance as budgeted;
2. The staff of various cadres at Tahir Guest Palace should also be allowed to participate in the budget target setting and process to further enhance its organizational performance. If the above recommendations are implemented, it will not only increase the organizational performance of Tahir Guest Palace but will also lead to increase in subordinates efforts and task performance.

## **The Impact Of Budgeting And Budgetary Control On The Performance Of Manufacturing Company In Nigeria**

This study, the impact of budgeting and budgetary control on the performance of manufacturing company in Nigeria, was conducted using Cadbury Nigeria Plc, as case study. Since wants are plenty while resources are limited, every organisation tends to find means by which it can get what it wants with the limited resources at its disposal. Therefore, firms seek to adopt the concept of budgeting and budgetary control to satisfy their needs at the least possible cost and at the same time fulfill their stewardship obligations to the numerous stakeholders. We adopted a descriptive research design with data gathered through questionnaire administered to respondents. Non-parametric tool of chi square was employed to analyse the data. Hypotheses were tested and analysed on a 5% level of significance and it was revealed that budgeting is a useful tool that guides firms to evaluate whether their goals and objectives are actualised. Considering the changing environment in which firms now operate, it can be concluded that budget, which is a continuous management activity, should adapt to changes in the dynamic business environment.

Recommendations From the above findings and in order for the manufacturing companies to operate profitably, they must take the following critical steps:

- a) Adopt a budgetary system of adequate planning with strict adherence to implementation, that cuts across the finance, production, administration, marketing etc;
- b) The finance department should review all existing standards and introduce measures that will tighten the internal control system to prevent leakages of financial resources;
- c) Only judicious and profitable investments should be undertaken;
- d) Top executives of Cadbury Plc, who presently have firm grip on the beverages and confectionary market in the country, should assess the current marketing and distribution policies as well as economic, political, technological and other socio-economic factors that affect the company;

e) Budgeting and budgetary control system should not be too complex for the people to understand;

f) To enhance the attainability of budgets, resources

## **Conclusions**

The relevant research questions raised above has been examined in the light of mode of operation of manufacturing companies. In the operation of manufacturing companies, it has been discovered that quite a number of the employees know the budgetary system of the company and there exist considerable participation of lower level employees in planning and budgeting. It was also discovered that the work force is well motivated and competent enough to propel the company to a greater height. Finally, it can be said that dedicated work force, improved technology and effective policies (budgeting inclusive) has helped the manufacturing companies to remain effective and efficient in fulfilling their stewardship obligations to the stakeholders.

## **3. Journal of Finance and Accounting**

**Volume 3, Issue 5, September 2021, Pages: 159-163**

### **Budgets and Budgetary Control as a Management Tool for Ghana Metropolitan**

#### **Assemblies**

The study examined the budgeting and budgetary control as a management tool in Ghanaian Metropolitan Assemblies with the view to find out the importance attached by metropolitan, municipal and district assemblies in Ghana to how budgets are prepared and implemented, benefits and problems associated with budgeting and the extent at which budget variance reports are used as a performance measure. The survey instrument was questionnaire. Statistical Package for Social Sciences (SPSS 16) software was used to analyze the data. The findings of the study revealed that, metropolitan assemblies prepare budgets and plans to guide their activities and operations and that there is generally a high level of budget participation. The major conclusion was that metropolitan assemblies use a rigorous budgetary control practices in its operations and attaches much importance to budgets and budgetary control as vital tool to aid them in effective and efficient management of their operations. It is

recommended, among other things, that appropriate measures should be put in place to enable all the assemblies in Ghana prepare plans and budgets since the practices lead to effective utilization of state resources.

## **Conclusion**

Budgeting is one of the fundamental decision-making processes in organizations as they serve numerous useful purposes in those organizations. The findings in Kumasi Metropolitan Assembly reveals a practical use of budgets and rigorous budgetary control practices in its operations in spite of a few challenges. But effective budget and budgetary control is determined by proper monitoring, adequate information, regulatory and legislative framework and information technology. It could therefore be concluded that district, municipal and metropolitan assemblies generally do attach much importance to budgets and budgetary control as vital tools to aid them in effective and efficient management of their operations.

3. Research Journal of Finance and Accounting [www.iiste.org](http://www.iiste.org) ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)

Budgeting and budgetary control entails the establishment of goals by the management of an organization and designing a process which serves as a framework within which an organization effectively articulates overall planned activities. The quantification of these planned activities in financial terms is known as budgeting, while the establishment of an effective mechanism to guarantee desired result is known as budgetary control. This study therefore seeks to undertake a systematic review of budgeting and budgetary control in Government owned organizations and given the importance of the foregoing, attention was focused on the Nigerian National petroleum Cooperation (NNPC). To achieve the objective of the study, primary data were obtained through the use of a well structured questionnaire administered to the respondents, while the secondary data were obtained from the annual financial statements, files, memos, tax laws and gazette of the NNPC. The findings revealed that a necessary and sufficient condition for achieving effective budgeting and budgetary control is the involvement of all relevant stakeholders in the preparation of the budget, given the established processes in government circles, while emphasizing a deliberate and

faithful implementation, by all responsible officers. This rests on the existence of a mental picture of the present state of affairs, vis-à-vis the future expected state of affairs, within the organization. It therefore recommended that since budgeting and budgetary control contributes to management efficiency and high productivity of an organization, all relevant stakeholders must be involved in the budget process, from preparation to implementation, in order to guarantee overall goal attainment. Keywords: Budgeting, Budgetary Control, Effective, Efficient, Management, Performance.

Lambe (2018) writing on Budgeting and Planning aptly defines budgeting as a comprehensive and coordinated plan which is packaged by the management of an organization, and expressed in financial terms for the operations and resources of an enterprise for some specific period in the future.

Having undertaken a systematic review of budgeting and budgetary control in Government owned organizations and roles they play towards determining the corporate objectives and profit making, it is imperative to conclude that budgeting and budgetary control is an indispensable tool to any organization. When matters relating to budget and budgetary control are carefully planned and implemented by any organization (most especially government owned organizations), it can lead to decrease in cost and increase in revenue, which in turn leads to maximization of profit. Though budgeting and budgetary control could enhance the efficiency of the organization's performance, it should be noted that it is not a "magic stick" that can replace effective management or ensuring the going concern of an organization and sustainability of operations. The finding of the research shows that when budgets are effectively utilized most especially within the framework of predetermined and effective control, it serves as a means of achieving and coordinating organizational plans and actions.

Zero base budgeting provides a framework that enables the evaluation of each function from the beginning. Every item of the budgeted expenditure must be examined critically and justified before it is allowed to form part of the budget. This makes the estimates or budgets more realistic as it is based on current conditions. Zero base approach tries to uncover the current position of things in organization, why it is being done, what better ways might be available and which activities are really important and determines the

cost-benefit analysis. This in turn would enable the organization to utilize such an approach as an effective tool to manage and allocate its resources and in so doing, achieve its objective. Based on the fact that actual budget preparation, co-ordination and implementation are almost exclusively the responsibilities of both top level management.

It is therefore recommended that heads of units and departments should be more involved in the preparation of budgets and not just the implementation. This of course is with due regards to organizational policy and considering the fact that the individuals saddled with tactical and operational activities of an organization are in a vantage position to make budget estimates that will be more reliable and accurate. It is equally recommend that operating performances report, which is occasionally prepared, should be done at more regular intervals (such as bi-weekly). This is recommended in recognition of the complexities of the budgetary system and it is envisaged that if the more regular reporting approach is adopted, it will in no small measure enhance the budgetary control system, since the shorter the period, the more effective the control. Consequently, since budgeting and budgetary control contribute to the improvement of management efficiency and high productivity; the budget committee should be educated in the implementation of budget. This would enable them to understand the importance of adhering to actual budget provisions thereby minimizing loses. Thus budget education should be conducted at regular intervals for all principal officers of the organization, by reputable firms, as the usefulness of such an exercise cannot be overemphasized.

#### **4. BUDGET AND BUDGETARY CONTROL: A TOOL FOR ENHANCED PERFORMANCE IN NIGERIA ORGANIZATIONS**

The slow space of organizational performance in Nigeria has been attributed in part to inadequacy in the process and implementation of budget and budgetary control. This paper aims at filling the gap as a means of educating managers and operators of businesses who are capable of reversing the current low organizational performance to an improved one. This study examines how budget and budgetary control can impact on the performance of some selected manufacturing companies listed in the Nigerian

Stock Exchange through a judgmental sampling technique. An investigative study was undertaken, using the sampling techniques correlation analytic techniques specifically the Pearson Product Movement Correlation Coefficient (PPMCC). The result indicates that there is a strong relationship between turnover as a variable of budget and performance indicators Earning Per Share (EPS), Divided Per Share (DPS) and Net Asset Per Share (NAS). Following our findings, we advise managers and business operators to appreciate the more their budgetary control systems, those without existing budgetary control system should be courageous enough to put one in place while those with dummy or passive one should re-establish a result oriented budgetary control system. It is evident that budgetary control system will reposition the manufacturing industry, if properly implemented, from its creeping performance level to an improved high capacity utilization point. Business environment in Nigeria today is tinted with high level of uncertainties and risk. To this end, Managers and Stakeholders must be ready and prepared to compete positively and favourably under these rapidly changing conditions. To secure survival under these environmental challenges, trials, complexities and vagueness, managers and stakeholders of the manufacturing sector must be armed with sharp tools, tested and trusted management techniques to forecast the tremendous changes which are likely to impact on the business, while future direction and dimension is chosen regarding resources required to attain selected goals.

## **Conclusion**

This study examines the relationship between budget, budgetary control and performance of selected companies in the manufacturing sector. We reviewed related literature and contributions to this study, the problems associated with budget and budgetary control, performance of the Nigeria manufacturing industry in previous and recent times, among other salient issues relevant to the subject of study. It came to the fore that a strong relationship existed between turnover as a budget variable and EPS, DPS and NAS as performance indicators. Infrastructural decay, inadequacy or total lack of it, coupled with over-dependence on crude oil is great impediments to improved performance in the manufacturing sector.

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

Research comprises defining and redefining problems, formulated hypothesis or suggested solution, collections, organizing and evaluating data, making deductions and searching for conclusions and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis.

#### **3.1 Research design**

The research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data. The research design is the arrangement of conditions for collections and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

##### **3.1.1 Analytical research:**

In analytical research, the researcher has to use facts or information already available, and analyse these to make a critical evaluation of the material

#### **3.2 Source of Data**

There are two types of data to be collected

- Primary data
- Secondary data

Primary data are those which are collected afresh and for the first time and thus happen to be original in character.

Secondary data, the data that are already available, it refers to the data which have already been collected and analysed by someone else. The secondary data are collected from company profile and website. Mostly the data used for the project are secondary data.

### **3.3 Method for Analysis**

#### **3.3.1 Payback Period Method**

The payback period is also called as pay off or pay out period method. That represents the period in which the total investment in permanent assets payback itself. The method is based on the principle that every capital expenditure pays itself back within a certain period out of the additional earnings generated from the capital assets. Thus, it measures the period of time for the original cost of the project to be recovered from the additional earnings of the project itself. Under this method, various investments are ranked according to the length of their payback period in such a manner that the investment with a shorter payback period is preferred to the one which has longer payback period. It is exact amount of time required for a firm to recover its initial investment in a project as calculated from cash flows.

#### **3.3.2 Rate of Return Method**

The method takes into account the earnings expected from the investment over their whole life. It is known as accounting rate of return method for the reason that under this method, the accounting concept of profit is used rather than cash inflows.

According to this method, various projects are ranked in order of the rate of earnings or rate of returns. The project with the higher rate of return is selected as compared to the one with lower rate of returns. This method can also be used to make decision as to accepting or rejecting the proposal.

#### **3.3.3 Net Present Value Method**

It is modern method of evaluating investment proposals. This method takes into consideration the time value of money and attempts to calculate the return on investments by introducing the factor of time element. The net present values of a inflows and outflows of cash occurring during the entire life of the project is determined separately for each year by discounting these flows by the firms cost of capital or predetermined rate.

### **3.3.4 Trend Analysis:**

Trend analysis is one of the important tools of analysing the financial data. It computes the percentage changes for different variables over a long period and then makes a comparative study of them. The trend percentage helps the analyst to study the changes that have occurred during the period. Such an analysis indicates the progress by showing ups and downs in its activities

*FINANCIAL TREND ANALYSIS* is the process of analysing financial statements of a bank for any continuing relationship. Generally, an analysis is made to find out what direction a concern is going, how rapidly, and whether there are enough resources to complete proposed projects.

An aspect of technical analysis that tries to predict the future movement of a stock based on past data. Trend analysis is based on the idea that what has happened in the past gives traders an idea of what will happen in the future.

### **3.4 Period of Study**

The period for study is carried out for the last five years i.e. 2018-2022

### **3.5 Capital as Limited Resource**

The foremost importance is that the capital is a limited resource which is true of any form of capital, whether it is raised through debt or equity. The firms always face the constraint of capital rationing. This may result in the selection of less profitable investment proposals if the budget allocation and utilization is the primary consideration. So the management should make a careful decision whether a particular project is economically acceptable and within the specified limits of the investments to be made during a specified period of time. In the case of more than one project, management

must identify the combination of investment projects that will contribute to the value of the firm and profitability. This, in essence, is the basis of capital budgeting.

In the form of either debt or equity, capital is a very limited resource. There is a limit to the volume of credit that the banking system can create in the economy. Commercial banks and other lending institutions have limited deposits from which they can lend money to individuals, corporations, and governments. In addition, the Federal Reserve System requires each bank to maintain part of its deposits as reserves. Having limited resources to lend, lending institutions are selective in extending loans to their customers. But even if a bank were to extend unlimited loans to a company, the management of that company would need to consider the impact that increasing loans would have on the overall cost of financing.

In reality, any firm has limited borrowing resources that should be allocated among the best investment alternatives. One might argue that a company can issue an almost unlimited amount of common stock to raise capital. Increasing the number of share of company stock, however, will serve only to distribute the same amount of equity among a greater number of shareholders. In other words, as the number of shares of a company increases, the company ownership of the individual stockholder may proportionally decrease.

The argument that capital is a limited resource is true of any form of capital, whether debt or equity or retained earnings, accounts payable or notes payable, and so on. Even the best known firm in an industry or a community can increase its borrowing up to a certain limit. Once this point has been reached, the firm will either be denied more credit or be charged a higher interest rate, making borrowing a less desirable way to raise capital.

### **3.6 Limitations of the Study**

- The company's certain information are kept secret
- The period of study restricted only to five years.
- The study is based on the past records of the company.

- The study concentrates only on capital budgeting of the company

The whole study focuses on different kind of capital budgeting techniques. Though these methods have sound advantages there are some computational problems and disadvantages in adapting these techniques. Though NPV method is easy to use if forecasted cash flows are known, in practice, it is quite difficult to obtain the estimates of cash flows due to uncertainty. Discount rate is also difficult in practice to precisely measure the discount rate. Further, caution needs to be applied in using the NPV method when alternative projects with unequal lives, or under funds constraint are evaluated. Ranking of investment projects as per the NPV rule is not independent of the discount rates.

Likewise payback period method is not an appropriate method of measuring the profitability of an investment project as it does not consider all cash inflows yielded by the project. This method fails to consider the pattern of cash inflows. There is no rational basis for setting a maximum payback period. It is generally a subjective decision. Payback is not consistent with the objective of maximizing the market value of the firm's shares. Share values do not depend on payback periods of investment projects.

Average rate on return method uses accounting profits, not cash flows, in appraising the projects. Accounting profits are based on arbitrary assumptions and choices and also include non-cash items. It is, therefore, inappropriate to rely on them for measuring the acceptability of the investment projects. The averaging of income ignores the time value of money; in fact, this procedure gives more weightage to the distant receipts. ARR method continues to be used as a performance evaluation and control measure in practice. But its use as an investment criterion is certainly undesirable. It may lead to unprofitable allocation of capital.

The variance analysis helps the company to know the difference between the budgeted and the actual cost. Income variance and expenditure variance analyses are been done in this project to know about the favourable and adverse position of the company.

The Trend analysis is used to find out the trend difference between the company's assets or investments. Thus the forecasting techniques are been used to analyse the company's position.

## **CHAPTER 4**

### **4.1 NEED FOR THE STUDY**

The process of allocating budget for fixed investment opportunities is crucial because they are generally long lived and not easily reversed once they are made. So we can say that this is a strategic asset allocation process and management needs to use capital budgeting techniques to determine which project will yield more return over a period of time.

Budgeting or investment appraisal is the planning process used to determine whether an organization's long term investments such as new machinery, replacement machinery, new plants, new products, and research development projects are worth pursuing.

It is budget for major capital, or investment, expenditures. It is a process used to determine whether a firm's proposed investments or projects are worth undertaking or not. The process of allocating budget for fixed investment opportunities is crucial because they are generally long lived and not easily reversed once they are made. So we can say that this is a strategic asset allocation process and management needs to use capital budgeting techniques to determine which project will yield more return over a period of time.

Companies are in a situation to invest a huge amount of money in order to take their firm to a greater extends of growth. In this case, they have to take a sound investment decision among various alternatives. If the investment decision taken up on a project is not worth undertaking, the amount invested on a particular project would not generate profit or value rather it creates loss to the firm. Hence, to increase wealth and profit of the firm or to avoid loss, a sound procedure is needed. Thus, the need of capital budgeting arises

## **4.2 SCOPE OF THE STUDY**

Duty of a financial manager is to choose investments with satisfactory cash flows and rates of return. Therefore, a financial manager must be able to decide whether an investment is worth undertaking and be able to choose intelligently between two or more alternatives. To do this, a sound procedure to evaluate, compare, and select projects is needed. This procedure is called Capital Budgeting.

Budgets are formal quantitative statements of the resources set aside for carrying out planned activities over given periods of time. As much, they are widely used means for planning and controlling activities at every level of the organization. Thus various analysis are been analysed to find out the company's budgetary position.

The study has been undertaken to understand the significance of budgeting:

- The study can help the organization to take investment decision in forth coming years
- It can be used as reference
- It will be helpful for fund allocation
- It will help in forecasting the future profits, trends etc.,
- It can be used as a base for the calculation of future budgets.

## **4.3 OBJECTIVES**

### **Primary Objective**

To study the budgetary control management in the company and to evaluate the capital budgeting techniques towards the Sigma Fine Arts.

### **Secondary Objective**

- To study and ensure planning for future by setting up various budgets
- To know the operation of various departments in budget control.
- To analyse the budgeting techniques.
- To find out the various variance analysis of the Sigma Fine Arts

- To find out the time series and trend analysis of Sigma Fine Arts

Evaluation of past projects and investment may cater valuable information to be adapted in the future.

#### **FINANCIAL TOOLS USED FOR THIS STUDY**

- PAY BACK PERIOD
- NPV
- ARR
- TREND ANALYSIS
- VARIANCE ANALYSIS
- PROFIT VARIANCE
- LINEAR REGRESSION
- TIME SERIES ANALYSIS

## **CHAPTER 5**

### **DATA ANALYSIS AND INTERPRETATION**

#### **5.1 Payback Period Method**

Payback period in capital budgeting refers to the period of time required for the return on an investment to repay the sum of the original investment. Payback period is widely used because of its ease of use despite recognized limitations, described below. Payback period as a tool of analysis is often used because it is easy to apply and easy to understand for most individuals, regardless of academic training or field of endeavour. One of the oldest and most widely used methods to evaluate a capital investment proposal is the Payback Period, as the name implies it refers to the time required to recover the initial investment or the initial cash outlay as it is called in financial terms.

#### **Formula**

Payback period = Cash outlay of the project / Annual cash inflows

##### **5.1.1 Advantages**

- It is simple to understand and easy to calculate
- It saves in cost, it requires lesser time and labour as compared to other methods of capital budgeting.
- In this method, as a project payback period is preferred to the one having a longer payback period, it reduces the loss through obsolescence and is more suited to the developing countries like India, which are in the process of development and have quick obsolescence.
- Due to its short term approach, this method is particularly suited to the firm which has shortage of cash or those liquidity positions are not particularly good.

### 5.1.2 Disadvantages

- Ignores the time value of money. This weakness is eliminated with the discounted payback method.
- Ignores cash flows occurring after the payback period.
- It treats each asset individually in isolation with other assets which is not feasible in real practice.
- The method does not measure the true profitability of the project as the period consider under this method is limited towards short period only and not the full life of the asset.
- Although payback period is the time period in which we recoup the initial cost of the project, yet it has a major drawback as it doesn't consider the time value of money

**Table 1**

#### **Payback Period Analysis**

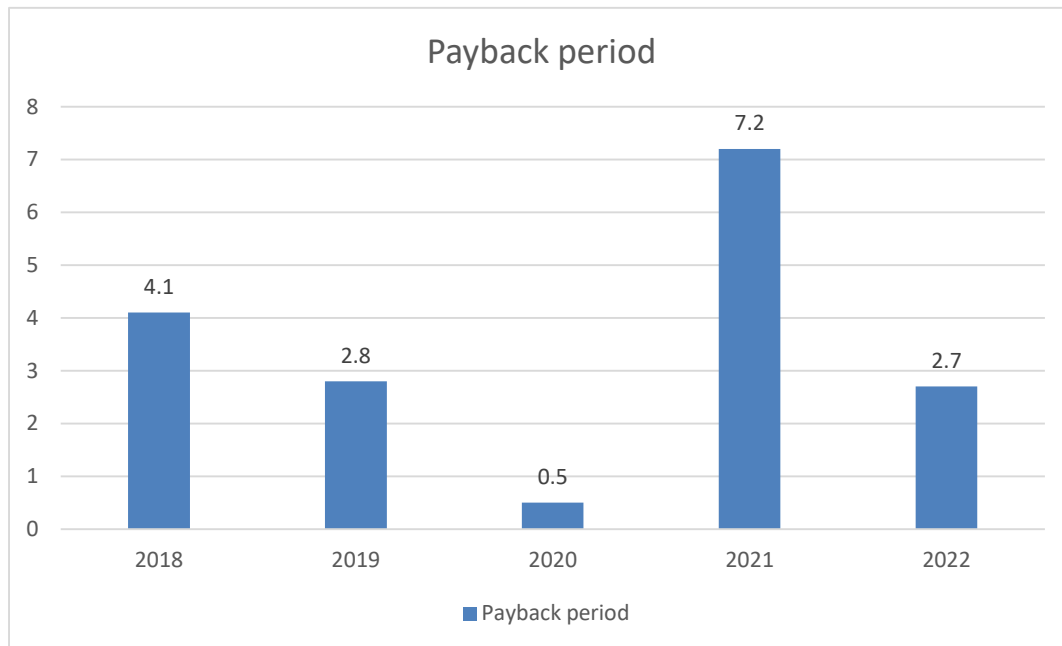
| <b>Year</b> | <b>Initial investments</b> | <b>Annual cash Inflow</b> | <b>Payback period</b> |
|-------------|----------------------------|---------------------------|-----------------------|
| 2018        | 8,01,01,25,000             | 1,96,98,53,000            | 4.1                   |
| 2019        | 8,51,22,22,000             | 3,02,48,93,000            | 2.8                   |
| 2020        | 8,99,06,67,000             | 1,86,65,73,000            | 0.5                   |
| 2021        | 10,55,06,67,000            | 1,46,77,18,000            | 7.2                   |
| 2022        | 11,82,32,60,000            | 4,42,07,50,000            | 2.7                   |

## 5.1 INTERPRETATION

The above table clearly shows that the payback period differs according to the amount invested in particular years. The 'X' axis denotes first five years from 2018 to 2022. The 'Y' axis denotes time period. In the first year 2018 the payback period 4.1 and the payback period for fifth year 2022 is 2.7 comparatively payback period for the year 2020 is less.

**Figure 1**

### CHANGES IN PAYBACK PERIOD



## 5.2 Net Present Value Method

The net present value or net present worth (NPW) of a time series of cash flows, both incoming and outgoing, is defined as the sum of the present values of the individual cash flows. The net present value method is a modern method of evaluating investment proposals. This method takes into consideration the time value of money and attempts to calculate the return on investments by introducing the factor of time element. The net present values of a inflows and outflows of cash occurring during the entire life of the project is determined separately for each year by discounting these flows by the firms cost of capital or predetermined rate.

### Formula

**Present value** = Cash flows \* Present value of Re. 1 @ 10% discount using present value table

**Net present value** = Present value of all cash inflows – present value of initial investment.

### 5.2.1 Advantages

- It will give the correct decision advice assuming a perfect capital market. It will also give correct ranking for mutually exclusive projects.
- NPV gives an absolute value.
- NPV allows for the time value of the cash flows.

### 5.2.2 Disadvantages:

- It is very difficult to identify the correct discount rate.
- NPV as method of investment appraisal requires the decision criteria to be specified before the appraisal can be undertaken.

**Table 2**

**Net Present Value Analysis**

| <b>Year</b> | <b>Cash outflows</b> | <b>Discounting present<br/>value<br/>Table<br/>(Present value of Re.1<br/>@ 10 %)</b> | <b>Present Value<br/>of Net Cash<br/>Flows</b> | <b>Present value<br/>of Initial<br/>investment</b> |
|-------------|----------------------|---------------------------------------------------------------------------------------|------------------------------------------------|----------------------------------------------------|
| 2018        | 1,96,98,53,000       | 0.909                                                                                 | 1,79,05,96,000                                 | 7,28,12,04,000                                     |
| 2019        | 3,02,48,93,000       | 0.826                                                                                 | 2,49,85,62,000                                 | 7,03,10,95,000                                     |
| 2020        | 1,86,65,73,000       | 0.751                                                                                 | 1,40,17,96,000                                 | 6,75,19,91,000                                     |
| 2021        | 1,46,77,18,000       | 0.683                                                                                 | 1,00,24,51,000                                 | 7,20,61,06,000                                     |
| 2022        | 4,42,07,50,000       | 0.621                                                                                 | 27,45,29,000                                   | 7,34,22,44,000                                     |
|             |                      | <b>TOTAL =</b>                                                                        | <b>6,96,79,34,000</b>                          | <b>3,56,12,64,000</b>                              |

**Calculation:**

Present value of all cash flows 6,96,79,34,000

**Less:** Present value of all Initial Investment 3,56,12,64,000

**Net Present Value (2018-12)** **3,40,66,70,000**

**5.2.3 Interpretation**

The acceptance rule using the Net Present Value method is to accept the investment project if its net present value is positive and to reject if it's NPV is negative. Positive contributes to the net wealth of the shareholders, which should result in the increased price of a firm's share. The positive net present value will result only if the project generates cash inflows at a rate higher than the opportunity cost of capital.

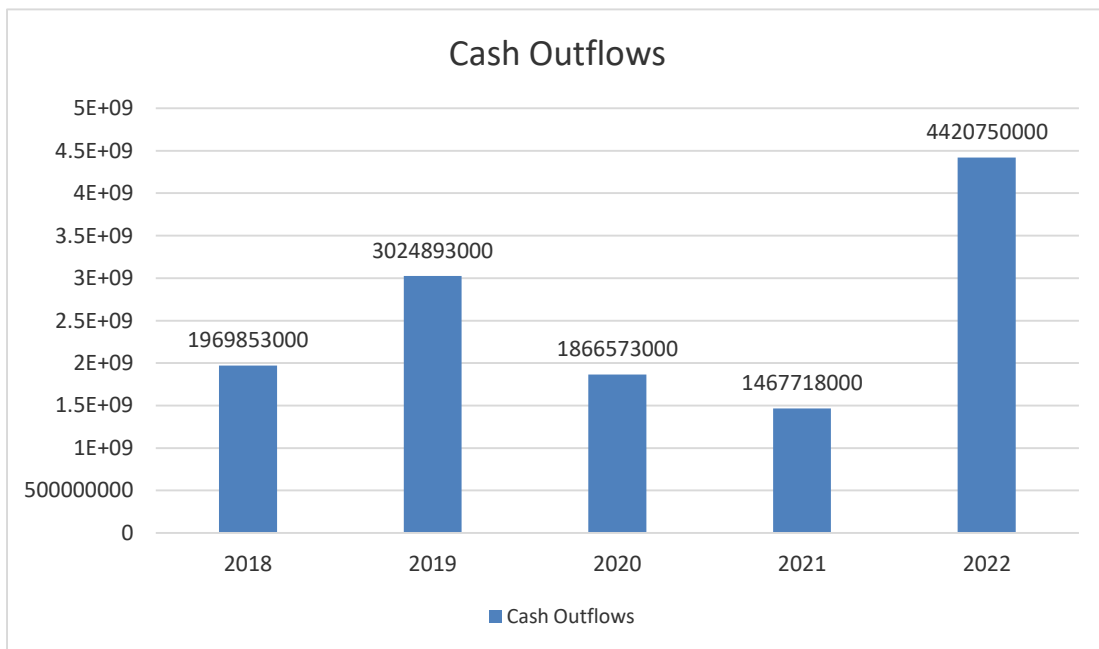
- Accept the project when  $NPV > 0$
- Reject the project when  $NPV < 0$
- May of may not accept the project when  $NPV = 0$ .

Above table clearly indicates that the Net Present Value for the five years from 2018 to 2022 is **3,40,66,70,000**

**Figure 2**

**Changes in Net Present Value**

**(in crores)**



### 5.3 Average Rate of Return

The accounting rate of return uses accounting information, as revealed by financial statements, to measure the profitability of an investment. The accounting rate of return is the ratio of the average after tax profit divided by the average investment. The average investment would be equal to half of the original investment if it were depreciated constantly. Alternatively, it can be found out by dividing the total of the investment's book values after depreciation by the life of the project. The accounting rate of return, thus, is an average rate and can be determined by the following equation:

$$\text{ARR} = \frac{\text{Average Income}}{\text{Average Investment}}$$

#### 5.3.1 Advantages

- It is simple to understand and use. It does not involve complicated computations.
- ARR can be readily calculated from the accounting data; unlike net present value and IRR methods, no adjustments are required to arrive at cash flows of the project.
- The ARR rule incorporates the entire stream of income in calculating the project's profitability.

#### 5.3.2 Disadvantages

- The ARR method uses accounting profits, not cash flows, in appraising the projects. Accounting profits are based on arbitrary assumptions and choices and also include non-cash items. It is, therefore, inappropriate to rely on them for measuring the acceptability of the investments projects.
- The averaging of income ignores the time value of money. In fact, this procedure gives more weightage to the distant receipts.

**Table 3**

**Average Rate of Return Analysis**

| <b>Year</b> | <b>Annual profit</b> | <b>Investment</b> | <b>Rate of Return<br/>%</b> |
|-------------|----------------------|-------------------|-----------------------------|
| 2018        | 1,96,98,53,000       | 8,01,01,25,000    | <b>24.59%</b>               |
| 2019        | 3,02,48,93,000       | 8,51,22,22,000    | <b>35.55%</b>               |
| 2020        | 1,86,65,73,000       | 8,99,06,67,000    | <b>20.76%</b>               |
| 2021        | 1,46,77,18,000       | 10,55,06,67,000   | <b>13.91%</b>               |
| 2022        | 4,42,07,50,000       | 11,82,32,60,000   | <b>37.39%</b>               |

**Calculation:**

Average Income                      2,54,99,57,400

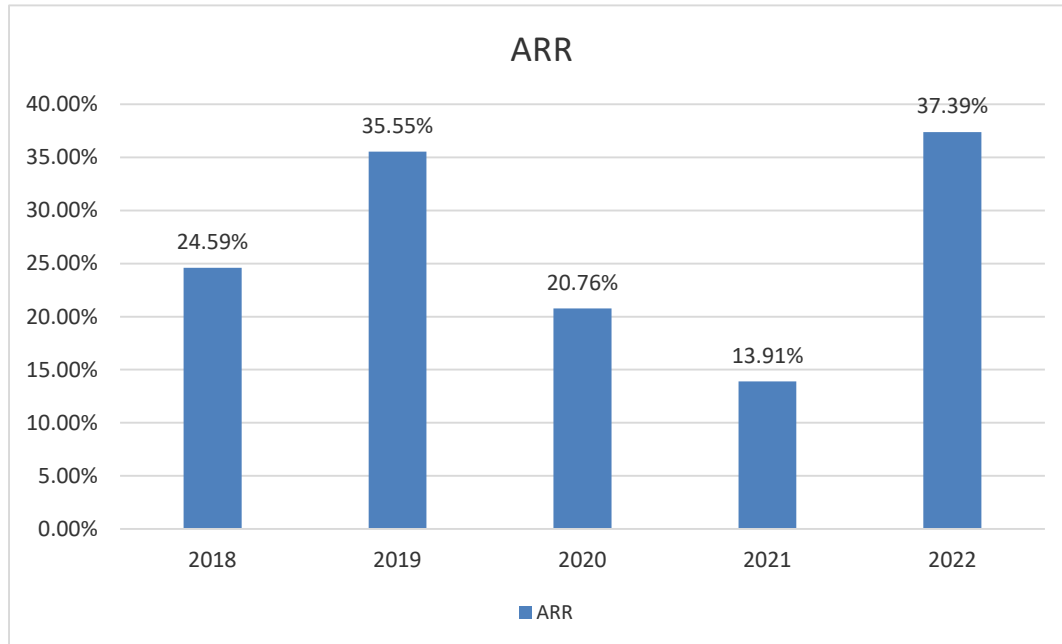
**Average Rate of Return** =  $\frac{\text{Average Income}}{\text{Average Investment}}$  = **26.62%**

Average Investment                      9,57,73,88,200

**5.3.3 Interpretation**

The chart shows that, in the year 2021 and in the year 2020 the company had lower expected rate of return than the minimum rate so the investment on the particular project can be reduced. In the year 2019 and 2022 the project has a higher rate of return than the minimum rate. Higher rate of return indicates that investment made in the particular year has higher cash inflow in the future.

**Figure 3**  
**Changes in Average Rate of Return**



### TREND ANALYSIS

#### MEANING TREND ANALYSIS:

Trend analysis is one of the important tools of analysing the financial data. It computes the percentage changes for different variables over a long period and then makes a comparative study of them. The trend percentage helps the analyst to study the changes that have occurred during the period. Such an analysis indicates the progress by showing ups and downs in its activities

Financial Trend Analysis is the process of analysing financial statements of a bank for any continuing relationship. Generally, an analysis is made to find out what direction a concern is going, how rapidly, and whether there are enough resources to complete proposed projects.

An aspect of technical analysis that tries to predict the future movement of a stock based on past data. Trend analysis is based on the idea that what has happened in the past gives traders an idea of what will happen in the future. There are three main types of trends: short-, intermediate- and long-term.

#### INVESTMENTS:

**TABLE 4**

| YEAR | INVESTMENTS<br>(Y)            | X               | XY                                   | X <sup>2</sup>     | Y = a + b x<br>(IN CRORES) |
|------|-------------------------------|-----------------|--------------------------------------|--------------------|----------------------------|
| 2018 | 8,01,01,25,000                | -2              | -<br>16,02,02,50,0<br>00             | 4                  | 7,25,39,31,200             |
| 2019 | 8,51,22,22,000                | -1              | -<br>8,51,22,22,00<br>0              | 1                  | 8,41,56,59,700             |
| 2020 | 8,99,06,67,000                | 0               | 0                                    | 0                  | 9,57,73,88,200             |
| 2021 | 10,55,06,67,000               | 1               | 10,55,06,67,0<br>00                  | 1                  | 10,73,91,16,700            |
| 2022 | 11,82,32,60,000               | 2               | 2,36,45,20,00<br>0                   | 4                  | 11,90,08,45,200            |
|      | $\sum Y =$<br>47,88,69,41,000 | $\sum X =$<br>0 | $\sum XY =$ -<br>11,61,72,85,0<br>00 | $\sum X^2 =$<br>10 |                            |

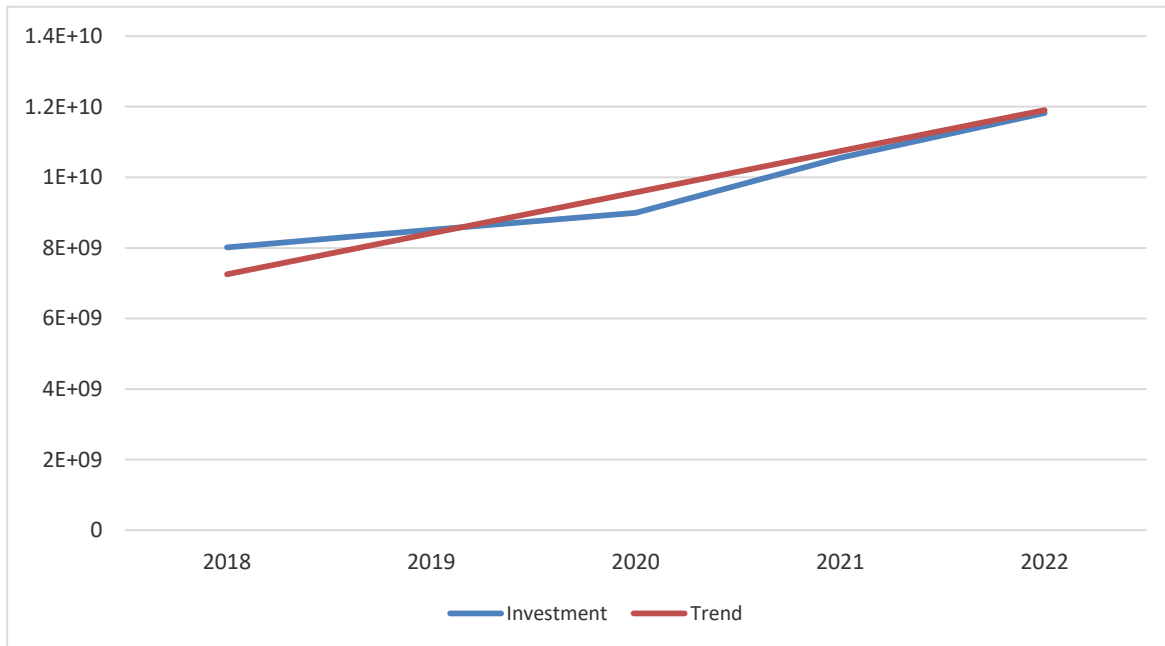
$$Y = a + bX \quad \text{Where} \quad a = \frac{\sum Y}{n} \quad ; \quad b = \frac{\sum XY}{\sum X}$$

$$b = 1,16,17,28,500$$

$$a = 9,57,73,88,200$$

## INVESTMENTS

FIGURE 4



## INFERENCE:

The above table shows the trend analysis of the investment made by the company for their operations. The above table shows that the company is having an increasing trend for the past 5 years and also shows a positive way for the future investment.

**FIXED ASSET:**

**TABLE 5**

| YEAR | FIXED ASSET<br>(Y)                | X            | XY                            | X <sup>2</sup>  | Y = a + b x        |
|------|-----------------------------------|--------------|-------------------------------|-----------------|--------------------|
| 2018 | 5,85,76,89,000                    | -2           | -11,71,53,78,000              | 4               | 5,67,90,18,20<br>0 |
| 2019 | 5,96,72,33,000                    | -1           | -5,96,72,33,000               | 1               | 6,09,46,46,30<br>0 |
| 2020 | 6,42,05,14,000                    | 0            | 0                             | 0               | 6,51,02,74,40<br>0 |
| 2021 | 6,77,29,80,000                    | 1            | 6,77,29,80,000                | 1               | 6,92,59,02,50<br>0 |
| 2022 | 7,53,29,56,000                    | 2            | 15,06,59,12,000               | 4               | 7,34,15,30,60<br>0 |
|      | $\sum Y =$<br>32,55,13,72,00<br>0 | $\sum X = 0$ | $\sum XY =$<br>4,15,62,81,000 | $\sum X^2 = 10$ |                    |

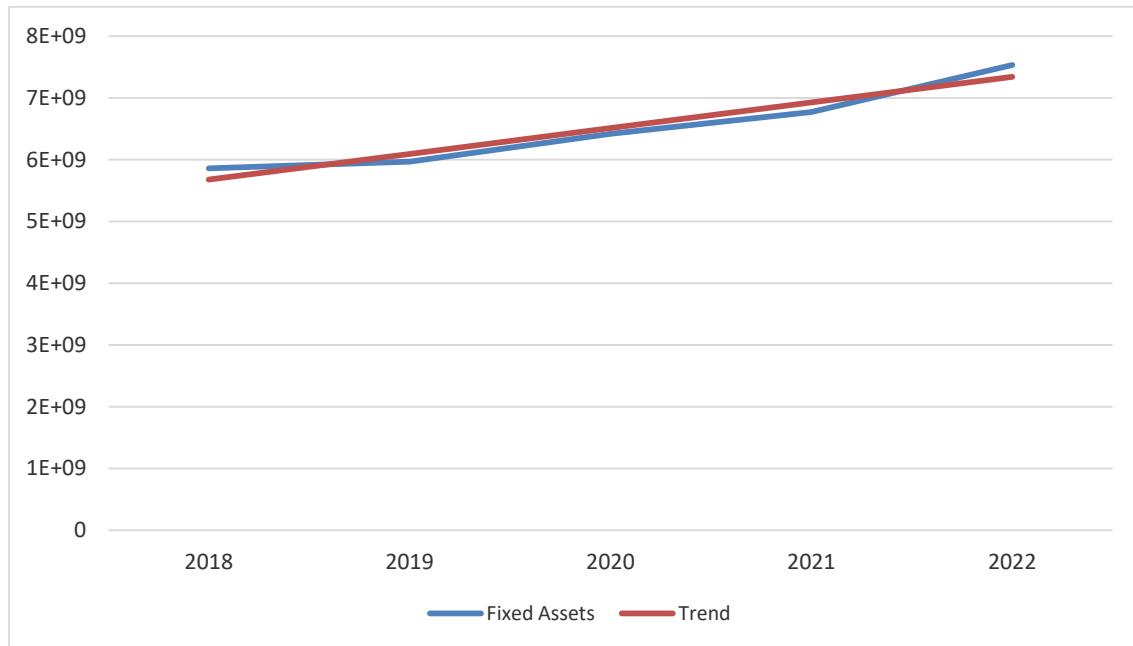
$$Y = a + bX \quad \text{Where} \quad a = \frac{\sum Y}{n} ; \quad b = \frac{\sum XY}{\sum X^2}$$

$$a = 6,51,02,74,400$$

$$b = 41,56,28,100$$

## FIXED ASSET

FIGURE 5



### INFERENCE:

The above table shows the trend analysis of the fixed asset of the company. The above table shows that the company has bought many fixed asset and has expanded the company. This shows a positive way for buying new fixed assets.

**TABLE 6**  
**CURRENT ASSETS:**

| YEAR | CURRENT ASSETS               | X            | XY                          | X <sup>2</sup>  | Y = a + b x       |
|------|------------------------------|--------------|-----------------------------|-----------------|-------------------|
| 2018 | 20,56,75,97,000              | -2           | -41,13,51,94,000            | 4               | 1,70,53,22,74,000 |
| 2019 | 24,05,65,51,000              | -1           | -24,05,65,51,000            | 1               | 2,13,37,16,70,900 |
| 2020 | 27,92,77,79,000              | 0            | 0                           | 0               | 2,15,62,63,76,000 |
| 2021 | 30,08,55,26,000              | 1            | 30,08,55,26,000             | 1               | 2,17,88,10,81,100 |
| 2022 | 28,82,66,35,000              | 2            | 57,65,32,70,000             | 2               | 2,20,13,57,86,200 |
|      | $\sum Y = 1,07,81,31,88,000$ | $\sum X = 0$ | $\sum XY = 22,54,70,51,000$ | $\sum X^2 = 10$ |                   |

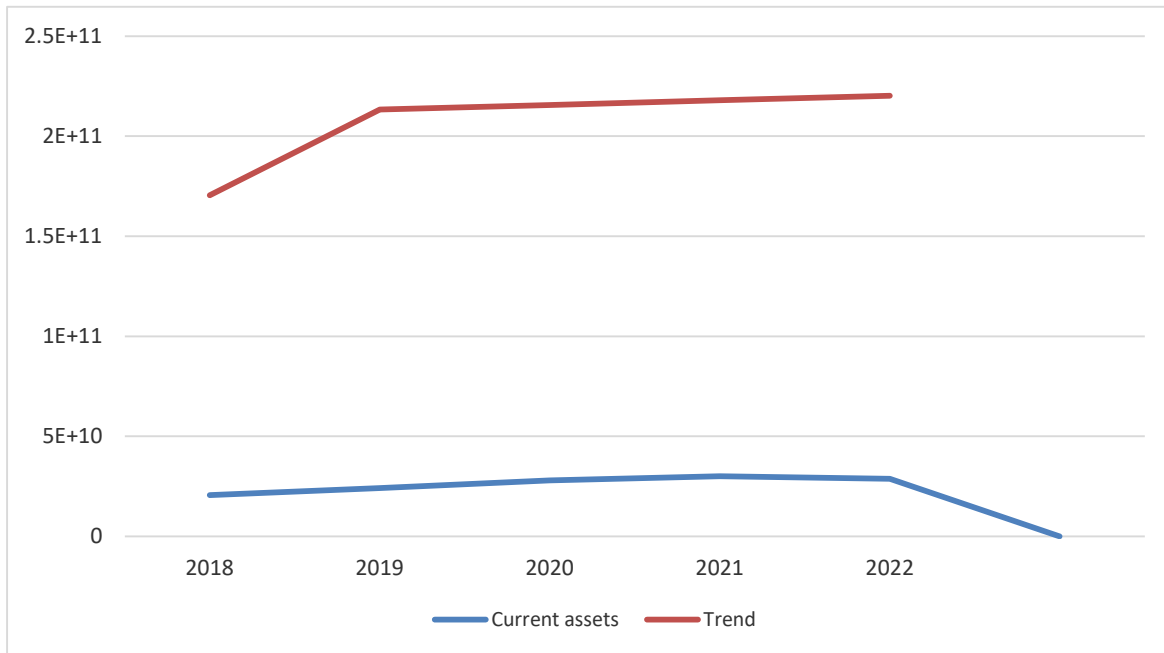
$$Y = a + bX \quad \text{Where} \quad a = \frac{\sum Y}{n} \quad ; \quad b = \frac{\sum XY}{\sum X^2}$$

$$a = 2,15,62,63,76,000$$

$$b = 2,25,47,05,100$$

## CURRENT ASSETS:

FIGURE 6



## INFERENCE:

The above table shows the trend analysis of the current assets made of the company for their operations. The above table shows that the company is having an increasing trend for the past 5 years and also shows a positive way for the future increase.

## VARIANCE ANALYSIS

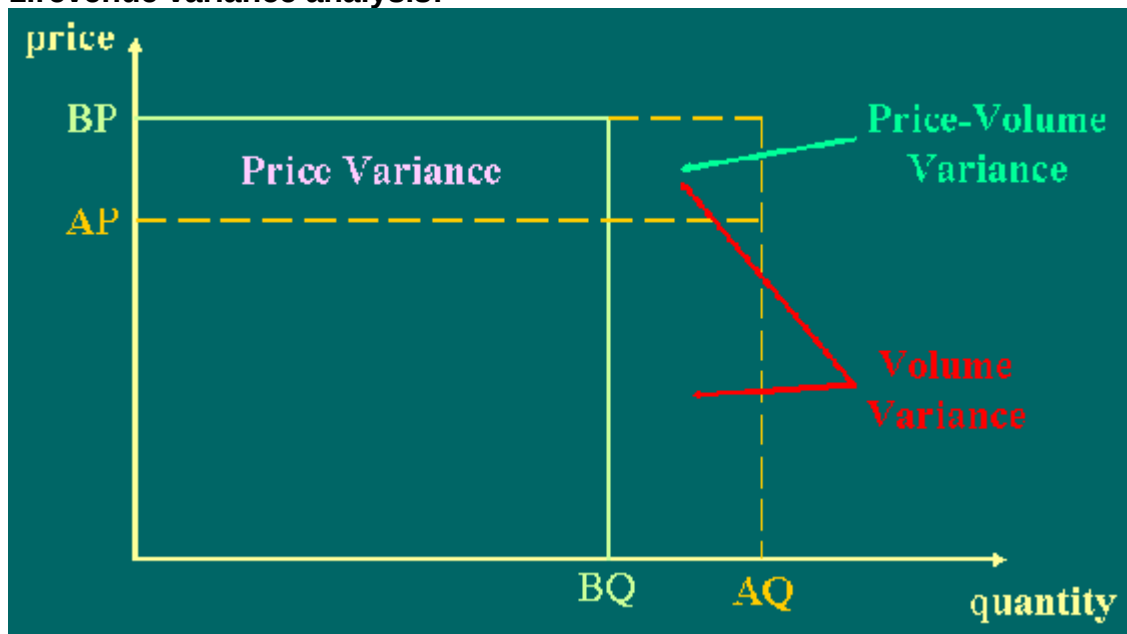
### Forecasting

- Moving Averages
  - attempt to remove random variations
  - gives equal weight to each of the periods
  - a large number of periods (n) results in a forecast that reacts slowly
  - current forecast is based on past information
- Regression Analysis
  - assumes a linear relationship between 2 variables
  - $Y = mX + b$
  - Y is called the dependent variable
  - X is called the independent variable
  - we use this relationship to forecast the value of the Y variable

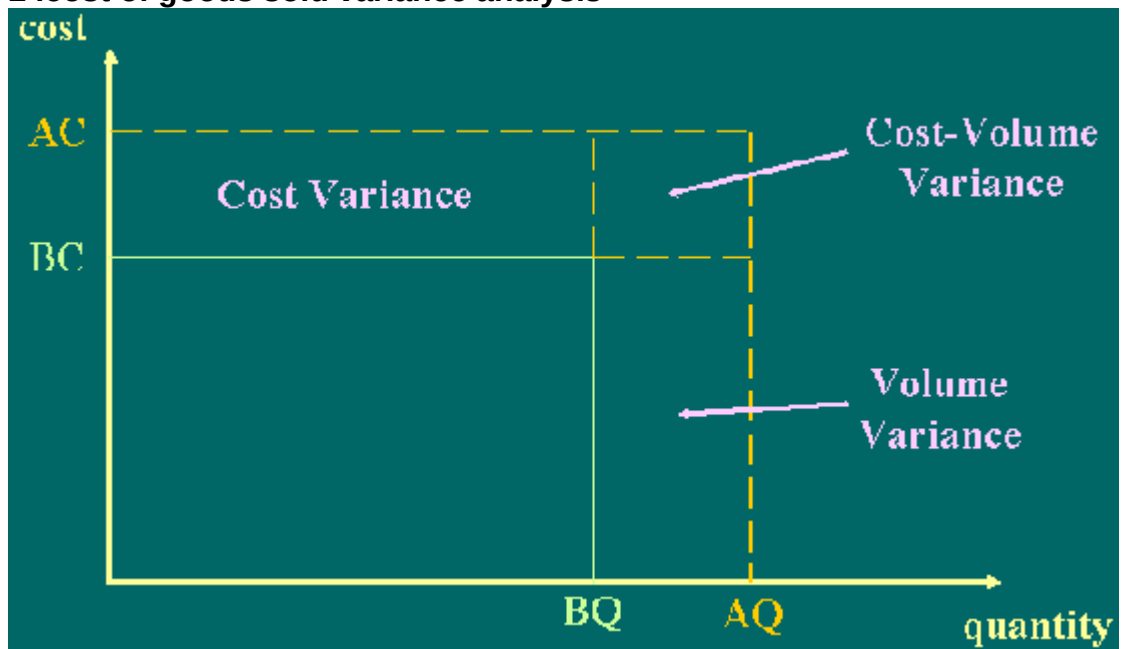
### Variance Analysis – Meaning:

- process of analysing variances in order to give management more information about the causes of the variance
- a variance is the difference between budgeted and actual results
- we can classify this difference as:
  - favourable
  - unfavourable(adverse)
- the variance usually made up of 2 components
  - price (or cost) variance
  - quantity variance
- can be used for revenues and expenses
- variance analysis provides additional information that is of help identifying causes of these differences
- 3 major types

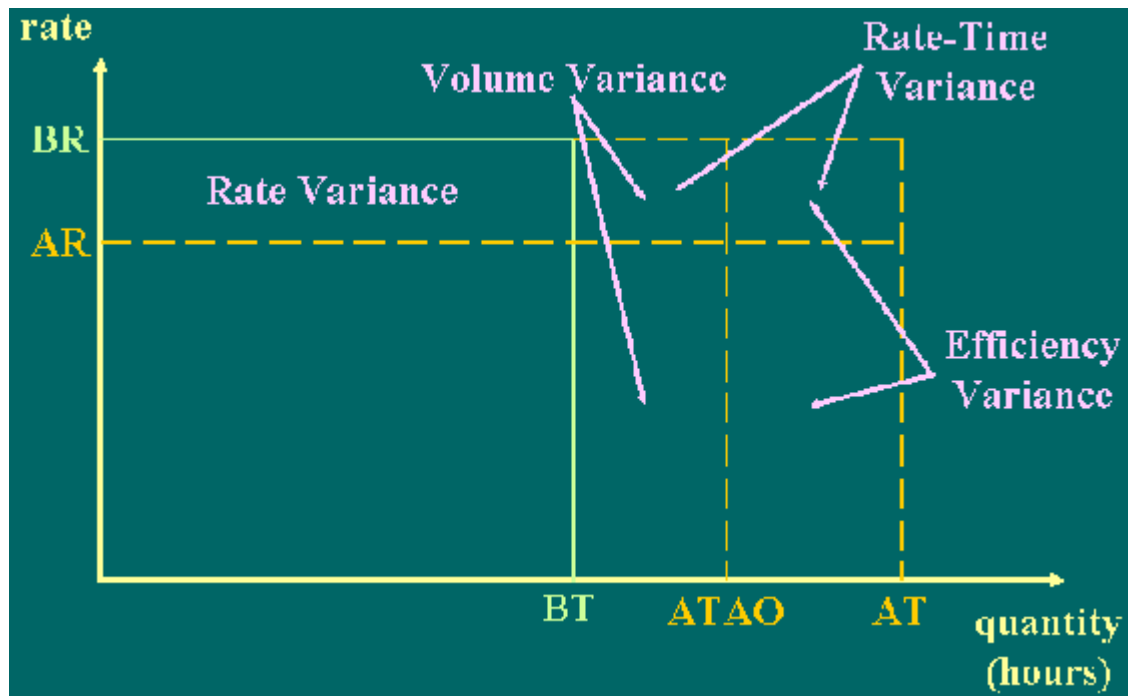
### 1. revenue variance analysis:



### 2 .cost of goods sold variance analysis



### 3.variable labor variance analysis



### CALCULATIONS OF VARIANCE ANALYSIS

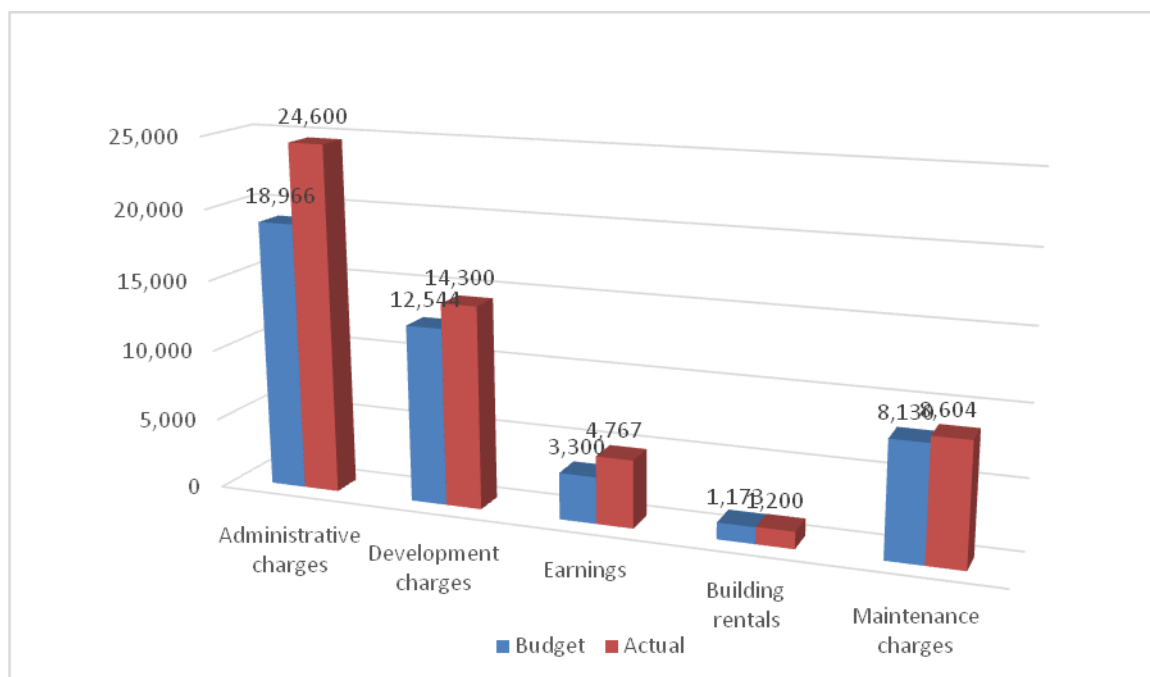
A variance is the difference between an actual result and an expected result. The process by which the total difference between standard and actual results is analysed is known as variance analysis. When actual results are better than the expected results, we have a favourable variance (F). If, on the other hand, actual results are worse than expected results, we have an adverse (A).

## 7. INCOME VARIANCE:

FOR THE YEAR: 2018(In lakhs)

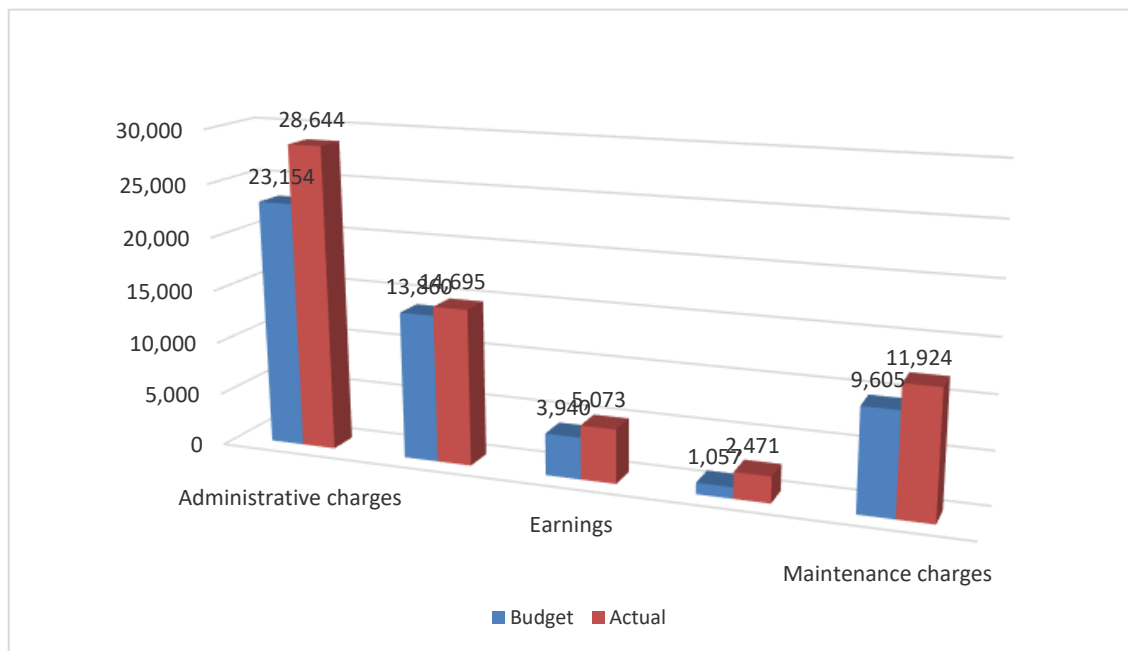
| PARTICULARS            | BUDGET | ACTUAL | VARIANCE                   |
|------------------------|--------|--------|----------------------------|
| Administrative charges | 18,966 | 24,600 | 5,634<br><b>FAVOURABLE</b> |
| Development charges    | 12,544 | 14,300 | 1,756<br><b>FAVOURABLE</b> |
| Earnings               | 3,300  | 4,767  | 1,467<br><b>FAVOURABLE</b> |
| Building rentals       | 1,173  | 1,200  | 27 <b>FAVOURABLE</b>       |
| Maintenance charges    | 8,130  | 8,604  | 474 <b>FAVOURABLE</b>      |

### CHART



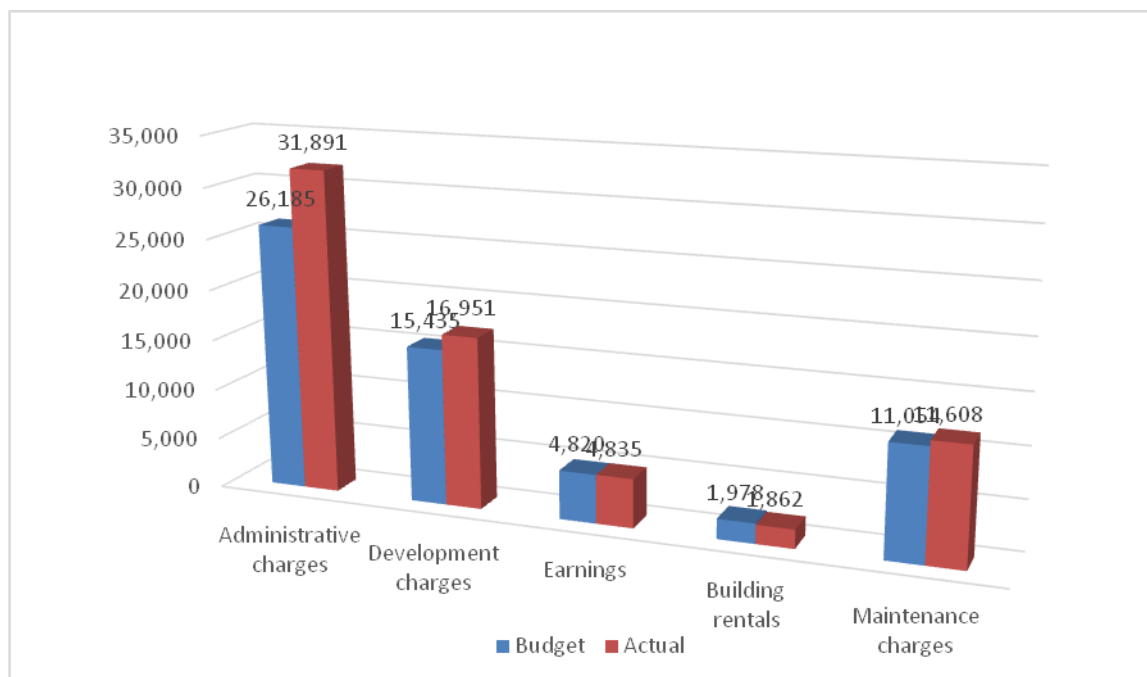
**FOR THE YEAR : 2019 (In lakhs)**

| <b>PARTICULARS</b>     | <b>BUDGET</b> | <b>ACTUAL</b> | <b>VARIANCE</b>            |
|------------------------|---------------|---------------|----------------------------|
| Administrative charges | 23,154        | 28,644        | 5,490<br><b>FAVOURABLE</b> |
| Development charges    | 13,860        | 14,695        | 835 <b>FAVOURABLE</b>      |
| Earnings               | 3,940         | 5,073         | 1,133 <b>FAVOURABLE</b>    |
| Building rentals       | 1,057         | 2,471         | 1,414<br><b>FAVOURABLE</b> |
| Maintenance charges    | 9,605         | 11,924        | 2,319<br><b>FAVOURABLE</b> |



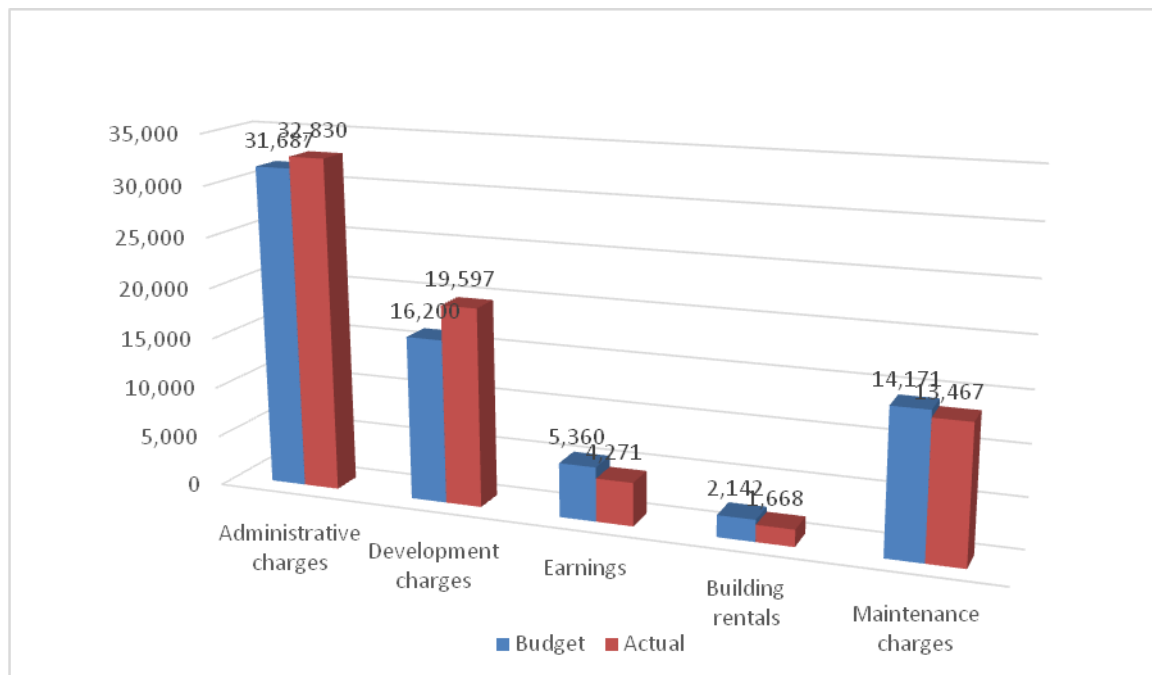
**FOR THE YEAR : 2020 (In lakhs)**

| PARTICULARS            | BUDGET | ACTUAL | VARIANCE                   |
|------------------------|--------|--------|----------------------------|
| Administrative charges | 26,185 | 31,891 | 5,706<br><b>FAVOURABLE</b> |
| Development charges    | 15,435 | 16,951 | 1,516<br><b>FAVOURABLE</b> |
| Earnings               | 4,820  | 4,835  | 15 <b>FAVOURABLE</b>       |
| Building rentals       | 1,978  | 1,862  | 116 <b>ADVERSE</b>         |
| Maintainence charges   | 11,054 | 11,608 | 554 <b>FAVOURABLE</b>      |



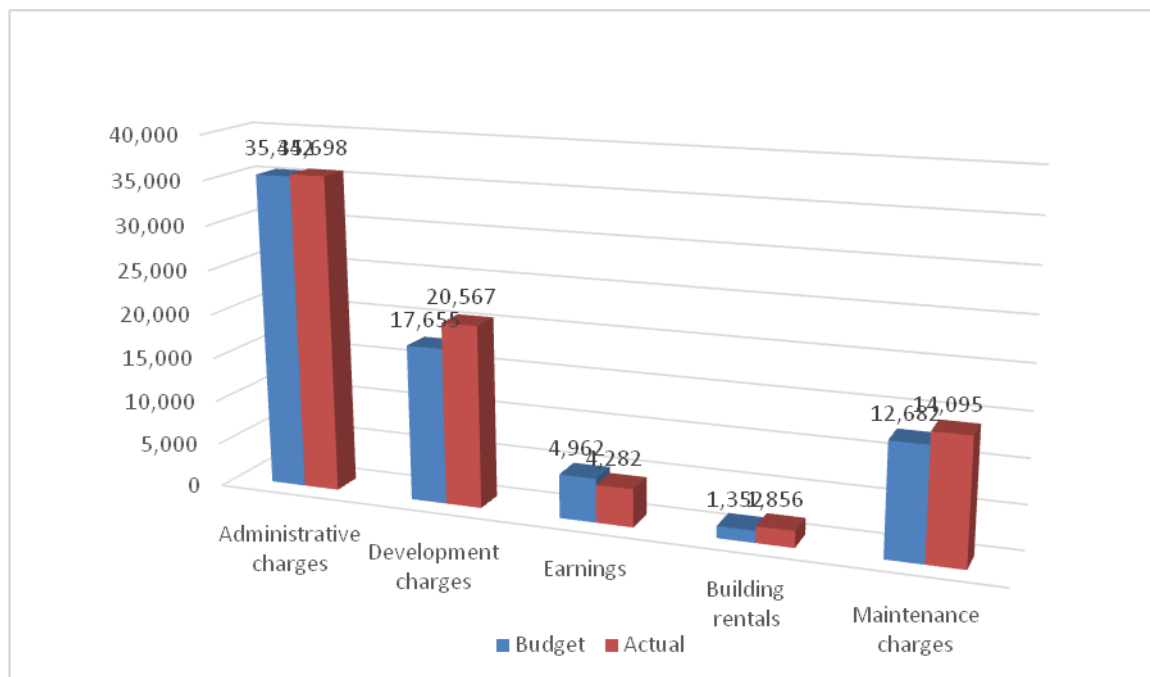
**FOR THE YEAR : 2021 (In lakhs)**

| <b>PARTICULARS</b>     | <b>BUDGET</b> | <b>ACTUAL</b> | <b>VARIANCE</b>            |
|------------------------|---------------|---------------|----------------------------|
| Administrative charges | 31,687        | 32,830        | 1,143<br><b>FAVOURABLE</b> |
| Development charges    | 16,200        | 19,597        | 3397<br><b>FAVOURABLE</b>  |
| Earnings               | 5,360         | 4,271         | 1,089 <b>ADVERSE</b>       |
| Building rentals       | 2,142         | 1,668         | 474 <b>ADVERSE</b>         |
| Maintenance charges    | 14,171        | 13,467        | 704 <b>ADVERSE</b>         |



**FOR THE YEAR : 2022 (In lakhs)**

| PARTICULARS            | BUDGET | ACTUAL | VARIANCE                  |
|------------------------|--------|--------|---------------------------|
| Administrative charges | 35,442 | 35,698 | 256<br><b>FAVOURABLE</b>  |
| Development charges    | 17,655 | 20,567 | 2912<br><b>FAVOURABLE</b> |
| Earnings               | 4,962  | 4,282  | 680 <b>ADVERSE</b>        |
| Building rentals       | 1,352  | 1,856  | 504<br><b>FAVOURABLE</b>  |
| Maintenance charges    | 12,682 | 14,095 | 1413<br><b>FAVOURABLE</b> |



## INFERENCE:

After analysing the income variance for all the 5 years. It is inferred that the company is having good earnings for all the 5 years. The company is having a favourable position for all these years.

In the year 2018 the company has a good favourable position ie., the actual earnings higher than the budgeted value.

In the year 2019 even though the earnings are decreased but still it is in the favourable position.

In the year 2020 the all the 4 factors have earned a good position but in the Building earnings the amount has been decreased to 116(ADVERSE).

In the year 2021 the company has been in unfavourable position ie. The company has many adverse values when compared to the previous years. The earnings have been decreased.

In the year 2022 the company has overcome its position from unfavourable position to a constant return. But the railway charges are still in the adverse position.

While analysing the overall value the company has to take some corrective budgeting to earn at a higher values In the future.

## 8 PROFIT VARIANCE:

$$\text{PROFIT VARIANCE} = \text{NET INCOME} - \text{COSTS}$$

FOR THE YEAR :2018 (In lakhs)

| PARTICULARS                  | BUDGET  | ACTUAL    | VARIANCE                     |
|------------------------------|---------|-----------|------------------------------|
| <b>TOTAL INCOME</b>          | 44,113  | 53,497    | 9384 <b>FAVOURABLE</b>       |
| Operating Dept Expenses      | 9055.2  | 9294.12   | 238.92 <b>FAVOURABLE</b>     |
| Engineering Dept Expenses    | 15,470  | 15866.36  | 396.36<br><b>FAVOURABLE</b>  |
| Administrative Dept Expenses | 8,125.8 | 9647.84   | 1522.04<br><b>FAVOURABLE</b> |
| <b>PROFIT</b>                | 11,462  | 18,688.86 | 7226.68<br><b>FAVOURABLE</b> |

**FOR THE YEAR: 2019 (In lakhs)**

| <b>PARTICULARS</b>           | <b>BUDGET</b> | <b>ACTUAL</b> | <b>VARIANCE</b>              |
|------------------------------|---------------|---------------|------------------------------|
| <b>TOTAL INCOME</b>          | 51616         | 62,809        | 11,193 <b>FAVOURABLE</b>     |
| Operating Dept Expenses      | 10,291        | 11,303.5      | 1,012.5 <b>FAVOURABLE</b>    |
| Engineering Dept Expenses    | 16,916        | 18,446.13     | 1530.13 <b>FAVOURABLE</b>    |
| Administrative Dept Expenses | 9698          | 10,335.87     | 637.87 <b>FAVOURABLE</b>     |
| <b>PROFIT</b>                | 14,711        | 22,723.95     | 8012.95<br><b>FAVOURABLE</b> |

**FOR THE YEAR : 2020 (In lakhs)**

| <b>PARTICULARS</b>           | <b>BUDGET</b>    | <b>ACTUAL</b>    | <b>VARIANCE</b>            |
|------------------------------|------------------|------------------|----------------------------|
| <b>TOTAL INCOME</b>          | <b>59,473.30</b> | <b>67,149.38</b> | <b>7676.08 FAVOURABLE</b>  |
| Operating Dept Expenses      | 10,991           | 12,19.52         | 9771.48<br><b>ADVERSE</b>  |
| Engineering Dept Expenses    | 18,638           | 21,771.91        | 3133.91 <b>FAVOURABLE</b>  |
| Administrative Dept Expenses | 10,455           | 22,559.83        | 12104.83 <b>FAVOURABLE</b> |
| <b>PROFIT</b>                | <b>18,626.30</b> | <b>21,598.12</b> | <b>2971.82 FAVOURABLE</b>  |

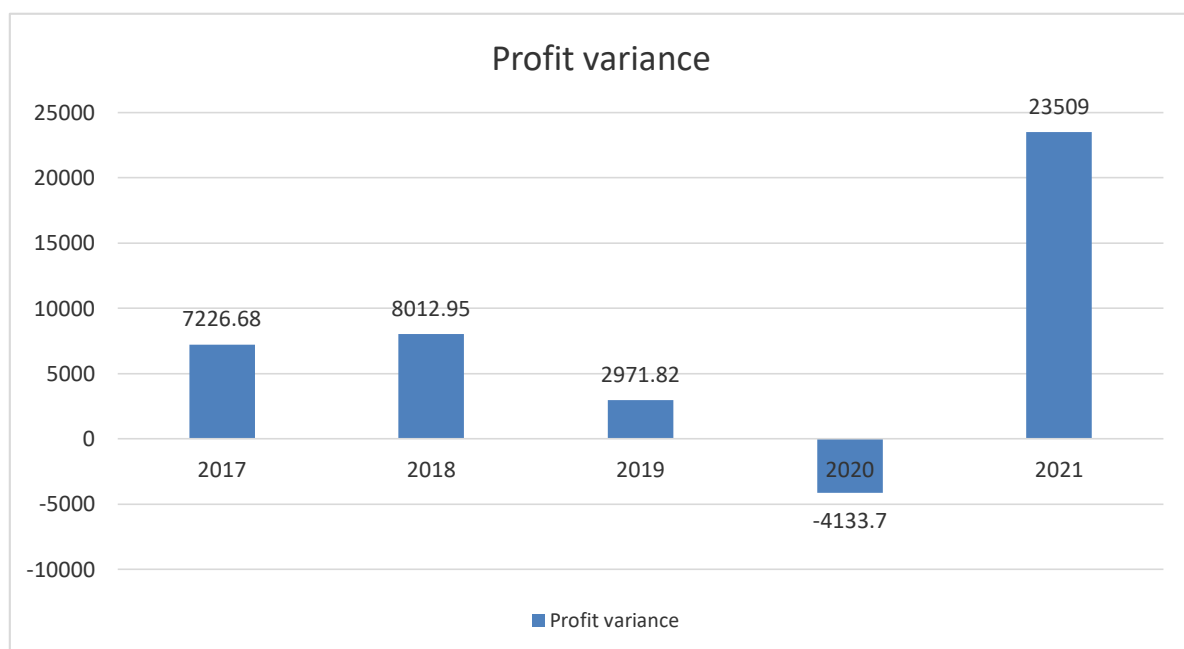
**OR THE YEAR : 2021 (In lakhs)**

| <b>PARTICULARS</b>           | <b>BUDGET</b> | <b>ACTUAL</b> | <b>VARIANCE</b>           |
|------------------------------|---------------|---------------|---------------------------|
| <b>TOTAL INCOME</b>          | 69,560.70     | 70,395        | 834.3 <b>FAVOURABLE</b>   |
| Operating Dept Expenses      | 14636         | 16,859        | 2223 <b>FAVOURABLE</b>    |
| Engineering Dept Expenses    | 22,388        | 23,925        | 1537 <b>FAVOURABLE</b>    |
| Administrative Dept Expenses | 11,939        | 13,123        | 1184<br><b>FAVOURABLE</b> |
| <b>PROFIT</b>                | 20,621.70     | 16,488        | <b>4,133.7 ADVERSE</b>    |

**FOR THE YEAR : 2022 (In lakhs)**

| PARTICULARS                  | BUDGET | ACTUAL | VARIANCE                 |
|------------------------------|--------|--------|--------------------------|
| <b>TOTAL INCOME</b>          | 74,849 | 76,500 | 1651 <b>FAVOURABLE</b>   |
| Operating Dept Expenses      | 16,621 | 14,204 | 2417 <b>ADVERSE</b>      |
| Engineering Dept Expenses    | 23,973 | 7820   | 16153 <b>ADVERSE</b>     |
| Administrative Dept Expenses | 13,313 | 10,040 | 3223 <b>ADVERSE</b>      |
| <b>PROFIT</b>                | 20,927 | 44,436 | 23,509 <b>FAVOURABLE</b> |

**CHART FOR PROFIT VARIANCE FOR THE 5 YEARS**



## **INFERENCE:**

By analysing the profit variance for the above 5 years, the company has an favourable position.

In the year 2018, the company has been earned more profit, ie., the company's actual profit is higher than the budgeted profit. The company is in the favourable position.

In the year 2019 the company has increased its profit margin when compared to the previous year.

In the year 2020, the company's operating department expenses have increased more than the budgeted one.

In the year 2021, the company's earnings are been increased and all profit is in the favourable position.

In the year 2022, the company has many adverse values although they are in the favourable position.

## **LINEAR REGRESSION**

### **Regression Definition:**

A regression is a statistical analysis assessing the association between two variables. It is used to find the relationship between two variables.

### **Regression Formula:**

Regression Equation( $y$ ) =  $a + bx$

Slope( $b$ ) =  $(N\sum XY - (\sum X)(\sum Y)) / (N\sum X^2 - (\sum X)^2)$

Intercept( $a$ ) =  $(\sum Y - b(\sum X)) / N$

where

$x$  and  $y$  are the variables.

$b$  = The slope of the regression line

$a$  = The intercept point of the regression line and the  $y$  axis.

$N$  = Number of values or elements

$X$  = First Score

$Y$  = Second Score

$\Sigma XY$  = Sum of the product of first and Second Scores

$\Sigma X$  = Sum of First Scores

$\Sigma Y$  = Sum of Second Scores

$\Sigma X^2$  = Sum of square First Scores

### 9. TO FIND THE RELATIONSHIP BETWEEN THE INITIAL INVESTMENT AND PAY BACK PERIOD

| INITIAL INVESTMENT (X) | PAY BACK PERIOD(Y) |
|------------------------|--------------------|
| 8,01,01,25,000         | 4.1                |
| 8,51,22,22,000         | 2.8                |
| 8,99,06,67,000         | 0.5                |
| 10,55,06,67,000        | 7.2                |
| 11,82,32,60,000        | 2.7                |

To find regression equation, we will first find slope, intercept and use it to form regression equation.

Step 1: Count the number of values.

$N = 5$

Step 2: Find  $XY$ ,  $X^2$

See the below table

| X                          | Y                | X*Y                           | X*X                             |
|----------------------------|------------------|-------------------------------|---------------------------------|
| 8,01,01,25,000             | 4.1              | 32,84,15,12,500               | 6,41,62,10,25,200               |
| 8,51,22,22,000             | 2.8              | 23,83,42,21,600               | 7,24,57,92,33,800               |
| 8,99,06,67,000             | 0.5              | 4, 49,53,33,500               | 8,08,32,09,31,000               |
| 10,55,06,67,000            | 7.2              | 75,96,48,02,400               | 11,13,16,57,41,000              |
| 11,82,32,60,000            | 2.7              | 3,19,22,80,200                | 13,97,89,47,70,000              |
| $\Sigma X=47,88,69,41,000$ | $\Sigma Y= 17.3$ | $\Sigma XY=1,40,32,81,50,200$ | $\Sigma X^2=46,85,58,17,01,000$ |

Step 3: Find  $\Sigma X$ ,  $\Sigma Y$ ,  $\Sigma XY$ ,  $\Sigma X^2$ .

$$\Sigma X = 47,88,69,41,000 \text{ or } 47.89$$

$$\Sigma Y = 17.3$$

$$\Sigma XY = 1,40,32,81,50,200 \text{ or } 1.40$$

$$\Sigma X^2 = 46,85,58,17,01,000 \text{ or } 46.86$$

Step 4: Substitute in the above slope formula given.

$$\begin{aligned}\text{Slope}(b) &= (N\Sigma XY - (\Sigma X)(\Sigma Y)) / (N\Sigma X^2 - (\Sigma X)^2) \\ &= ((5)*(1.40) - (47.89)*(17.3)) / ((5)*(46.86) - (47.89)^2) \\ &= (-40.89) / 186.41 \\ &= -0.219\end{aligned}$$

Step 5: Now, again substitute in the above intercept formula given.

$$\begin{aligned}\text{Intercept}(a) &= (\Sigma Y - b(\Sigma X)) / N \\ &= (17.3 - 0.219(47.89)) / 5 \\ &= (818.009) / 5 \\ &= 163.6\end{aligned}$$

Step 6: Then substitute these values in regression equation formula

$$\begin{aligned}\text{Regression Equation}(y) &= a + bx \\ &= 163.6 - 0.219x\end{aligned}$$

### **Inference:**

The regression equation is found to be **163.6- 0.219x**

## TIME SERIES ANALYSIS

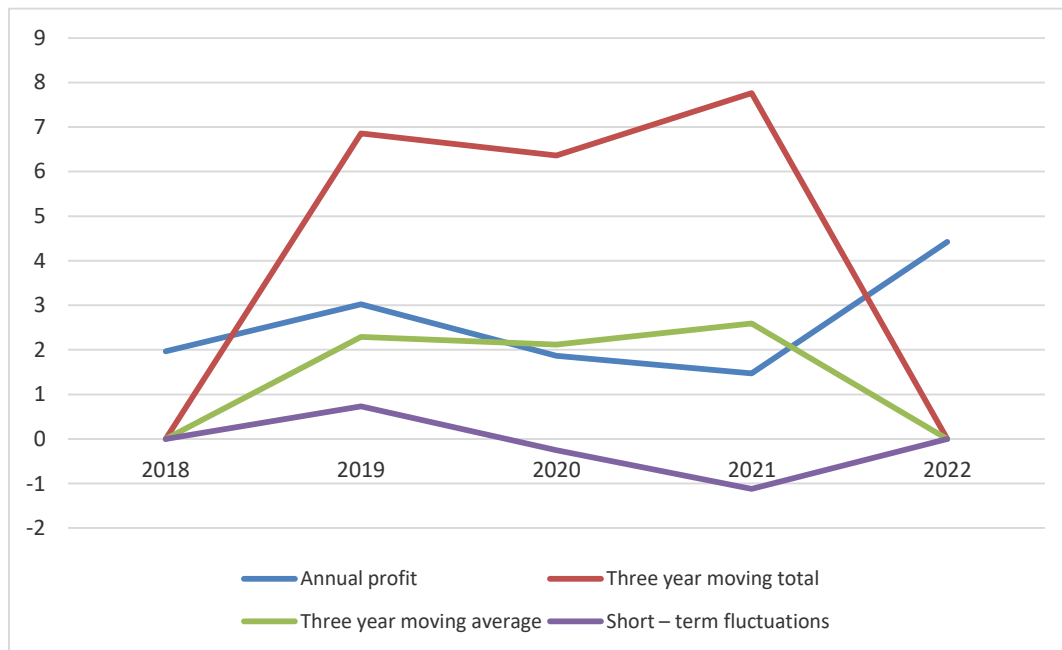
### 10. TO FIND THE THREE YEAR MOVING AVERAGE TO DETERMINE THE TREND AND SHORT TERM FLUCTUATIONS

| Year | Annual profit  |
|------|----------------|
| 2018 | 1,96,98,53,000 |
| 2019 | 3,02,48,93,000 |
| 2020 | 1,86,65,73,000 |
| 2021 | 1,46,77,18,000 |
| 2022 | 4,42,07,50,000 |

#### SOLUTION:

| Year | Annual profit<br>(IN CRORES) | Three year<br>moving total | Three year<br>moving<br>average | Short – term<br>fluctuations |
|------|------------------------------|----------------------------|---------------------------------|------------------------------|
| 2018 | 1.97                         | -----                      | ----                            | ---                          |
| 2019 | 3.02                         | <b>6.86</b>                | <b>2.29</b>                     | <b>0.73</b>                  |
| 2020 | 1.87                         | <b>6.36</b>                | <b>2.12</b>                     | <b>-0.25</b>                 |
| 2021 | 1.47                         | <b>7.76</b>                | <b>2.59</b>                     | <b>-1.12</b>                 |
| 2022 | 4.42                         | ----                       | ----                            | ----                         |

**CHART - THREE YEAR MOVING AVERAGE TO DETERMINE THE TREND AND SHORT TERM FLUCTUATIONS**



**INFERENCE:**

From the above the short term fluctuations of the annual profit. The trend of the annual profit shows that for the year 2020 and 2021 shows a negative trend and negative fluctuations.

## CHAPTER 6

### SUMMARY OF FINDINGS, SUGGESTION AND CONCLUSION

#### 6.1 Findings

- Through the analysis made for the past five years i.e. 2018 – 2022, it is found that the payback period for the year 2020 is less, so that the company can get back their invested amounts within a short period. The year 2021 has the longest payback period of 7.2 years.
- Net Present Value for the five years from 2018 to 2022 is 3,40,66,70,000. Hence, the investment plan taken up by the management is satisfactory thus similar projects can be preceded further.
- Higher rate of return indicates that investment made in the particular year has higher cash inflow in the future. Hence, 2021 can be considered as most favourable period for the company. The project carried over in the particular year has a clear positive return.
- Average Rate of Return has increased gradually year by year except in the year 2020 and again it increased and touched the highest rate of return.
- In the calculation of trend analysis for investment the current year (2022) investment is greater 11,90,08,45,200 when compared to the previous year (2021) 10,73,91,16,700.
- In the calculation of trend analysis for fixed asset the current year (2022) is increased to 7,34,15,30,600 when compared to the previous year (2021) 6,92,59,02,500
- In the calculation of trend analysis for current assets the current year (2022) is increased to 2,20,13,57,86,200 when compared to the previous year (2021) 2,17,88,10,81,100
- In the year 2022 for the analysis of income variance the company has overcome its position from unfavourable position to a constant return.
- In the year 2022 for the calculation of profit variance, the company has many adverse values although they are in the favourable position.

- The trend of the annual profit shows that for the year 2020 and 2021 shows a negative trend and negative fluctuations.

## 6.2 Suggestions

Here are few suggestions which can be utilized by the company to change few drawbacks into success

- It is found that the payback period for the year 2021 is less. Hence, the company can decide to invest a greater per cent of money into the particular project which gained higher return in the year 2021.
- The company can decrease the production cost
- The company can anticipate and analyse the rate of return on investment through which possible losses can be avoided.
- The management should concentrate on various budgeting techniques in order to avoid possible losses and late realization of initial outlay.
- The management should be effective in capital budgeting
- Analysis of past performance of the company has to be made frequently in order to find out the mistakes and achievements
- Investment decision require special attention because they influence the firm's growth in the long run
- The management should consider all cash inflows to determine the true profitability of the project
- Analysing the income variance although the company is in the favourable position the company has increasing the expenses, proper care should been taken to reduce the expenses.

## **CHAPTER 7**

### **CONCLUSION AND FUTURE ENHANCEMENTS**

#### **7.1 Conclusion**

Through this study it is very clear that the budgeting techniques essentially involves evaluation of the worth of capital investment proposals based on estimates of cash inflows and outflows, variance analysis, trend analysis. The study emphasizes that efficient allocation of capital is the most important finance function in the modern times. Thus, capital budgeting or investment decisions are of considerable importance to the firm, since they tend to determine its value by influencing its growth, profitability and risk. The analysis of payback period and Average Rate of Returns conclude that management should take efforts to perform the capital budget in efficient manner.

A variance is the difference between an actual result and an expected result. The process by which the total difference between standard and actual results is analysed is known as variance analysis. Thus the company has been in the favourable position to the company.

#### **7.2 Future Enhancements**

Though the study has analysed the important methods like Payback period method, Net present value method and Rate of turn method the management should keep considering the technology changes and market conditions in order to ensure the effectiveness of accounts.

Though the company is in the favourable position the company has a low profit when compared to the previous years.

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## APPENDIX

### BALANCE SHEET CONTAINING LAST 5 YEAR'S FINANCIAL STATEMENT OF SIGMA FINE ARTS (RS. IN CRORES)

| Particulars                     | 2018          | 2019          | 2020          | 2021          | 2022          |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|
| Share Capital – Equity          | 42.28         | 44.39         | 44.39         | 44.39         | 44.39         |
| Share Capital – Preference      | 40.00         | 40.00         | 40.00         | 40.00         | 40.00         |
| Reserves and Surplus            | 150.30        | 283.06        | 291.78        | 406.85        | 579.99        |
| Deferred tax liability          | 23.75         | 17.44         | 24.71         | 18.18         | 4.75          |
| Loans                           | 167.92        | 147.01        | 257.89        | 175.41        | 72.79         |
| <b>SOURCES OF FUNDS – Total</b> | <b>424.25</b> | <b>531.90</b> | <b>658.77</b> | <b>684.83</b> | <b>741.93</b> |
| Fixed assets                    | 58.58         | 59.67         | 64.20         | 67.73         | 75.33         |
| Capital work in progress        | 225.44        | 274.01        | 365.08        | 345.30        | 444.43        |
| Investments                     | 80.10         | 85.12         | 89.91         | 105.51        | 118.23        |
| <b>Current Assets:</b>          |               |               |               |               |               |
| Inventories                     | 33.3          | 32.24         | 31.75         | 58.82         | 24.88         |
| Debtors                         | 90.12         | 92.06         | 96.45         | 106.22        | 93.61         |
| Cash and bank balances          | 38.29         | 50.73         | 51.91         | 54.69         | 86.72         |
| Loans and Advances              | 43.96         | 65.54         | 99.17         | 81.13         | 83.06         |

|                                        |               |               |               |               |               |
|----------------------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>Total Current Assets</b>            | <b>205.67</b> | <b>240.57</b> | <b>279.28</b> | <b>300.86</b> | <b>288.27</b> |
| Less: Current Liabilities & Provisions | 159.86        | 192.26        | 179.70        | 134.57        | 184.33        |
| <b>Net Current Assets</b>              | <b>45.81</b>  | <b>48.31</b>  | <b>99.58</b>  | <b>166.29</b> | <b>103.94</b> |
| Deferred revenue expenditure           | 14.31         | 64.21         | 40.00         | -             | -             |
| <b>APPLICATIONS OF FUNDS – Total</b>   | <b>424.25</b> | <b>531.90</b> | <b>658.77</b> | <b>684.83</b> | <b>741.93</b> |

**LAST 5 YEARS PROFIT & LOSS ACCOUNT SIGMA FINE ARTS (RS. IN CRORES)**

| <b>Particulars</b>            | <b>2018</b>  | <b>2019</b>  | <b>2020</b>  | <b>2021</b>  | <b>2022</b>  |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|
| Sales volume ( no's in lakhs) |              |              |              |              |              |
| Sales Income(Profit)          | 53,497       | 62,809       | 67,149.38    | 70,395       | 76500        |
| Expenditure                   | 34808.32     | 40085.5      | 45551.26     | 53907        | 32064        |
| Interest                      | 24.84        | 20.42        | 20.14        | 29.43        | 25.42        |
| Depreciation / Amortization   | 19.66        | 25.59        | 29.73        | 41.76        | 60.08        |
| <b>Operating Profit</b>       | <b>19.70</b> | <b>30.25</b> | <b>18.66</b> | <b>14.68</b> | <b>44.21</b> |
| Add: Other Income             | 2.43         | 3.22         | 1.77         | 5.26         | 11.86        |
| Less: Exceptional Item        | (25.00)      | (24.00)      | -            | -            | -            |
| Profit Before Taxes           | 86.88        | 131.65       | 202.30       | 230.56       | 321.32       |
| Taxes                         | 13.26        | 37.52        | 52.04        | 71.59        | 70.99        |
| Profit After Taxes            | 73.62        | 94.13        | 150.27       | 158.96       | 250.32       |
| Equity Dividend (%)           | 30%          | 50%          | 80%          | 100%         | 150%         |

|                                |        |        |        |        |        |
|--------------------------------|--------|--------|--------|--------|--------|
| Equity Dividend (Rs.)          | 13.32  | 22.19  | 35.51  | 44.39  | 66.58  |
| Employee costs (excluding VRS) | 109.13 | 157.04 | 189.16 | 233.40 | 274.49 |
| % to Sales Income              | 7.4%   | 7.4%   | 6.2%   | 6.1%   | 5.8%   |
| Advertising                    | 101.31 | 133.82 | 151.55 | 181.36 | 211.15 |
| % to Sales Income              | 6.8%   | 6.3%   | 5.0%   | 4.7%   | 4.5%   |

**ANNEXURE II – RESEARCH ARTICLE**  
**A STUDY ON BUDGETARY CONTROL MANAGEMENT WITH REFERENCE TO**  
**SIGMA FINE ARTS, SIVAKASI**

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**ABSTRACT**

The objective of the research is to study on budgetary control through which to stress the importance of capital budgeting in an organization and to analyse the capital budgeting process to be adopted by the company in order to take better investment decisions for various business projects. Further, it caters information about cash inflows and outflows of various years. Thus the comparison provides clear idea about investments and return on the same which can be helpful for the years to come.

**INTRODUCTION**

A budget is a detailed plan for acquiring and using financial and other resources over a specified period of time. It represents a plan for the future expressed in formal quantitative terms. The act of preparing a budget is called budgeting. The use of budgeting to control a firm's activities is called budgetary control. Budget requires coordination throughout the organisation. Each department or unit within the organisation is responsible to prepare its part of the budget, which is then coordinated with the overall company budget.

**OBJECTIVE:**

- To study and ensure planning for future by setting up various budgets
- To know the operation of various departments in budget control.
- To analyse the budgeting techniques.
- To find out the various variance analysis of the Sigma Fine Arts
- To find out the time series and trend analysis of Sigma Fine Arts

## NEED FOR THE STUDY

It is budget for major capital, or investment, expenditures. It is a process used to determine whether a firm's proposed investments or projects are worth undertaking or not. The process of allocating budget for fixed investment opportunities is crucial because they are generally long lived and not easily reversed once they are made. So we can say that this is a strategic asset allocation process and management needs to use capital budgeting techniques to determine which project will yield more return over a period of time.

## SCOPE OF THE STUDY

- The study can help the organization to take investment decision in forth coming years
- It can be used as reference
- It will be helpful for fund allocation
- It will help in forecasting the future profits, trends etc.,
- It can be used as a base for the calculation of future budgets.

## REVIEW OF LITERATURE

**Susan F. Haka, Michigan State University, USA (2018)** has studied "Capital budgeting and investment appraisal" and historical appraisal of the development of current capital budgeting practices and reviews capital budgeting academic research. He has explained modern capital budgeting and its processes.

**Davina F. Jacobs (2019)** is a senior economist in the Fiscal Affairs Department has done a research on capital budgeting practices. His study argues that the key challenge in government budgeting is to define an appropriate balance between current and capital expenditures. Budgeting for government capital investment also remains not well integrated into the formal budget preparation process in many countries.

**Niels Hermes, Peter Smid and Lu Yao (2011)** Faculty of Management and Organization, University of Groningen and Faculty of Economics, University of Groningen, The Netherlands, have made a study on “Capital budgeting practices: A comparative study of the Netherlands and China”.

## **RESEARCH METHODOLOGY**

**Research Design:** The research design was based on secondary data.

**Data Collection:**

**Secondary Data:** It is collected from journals, organization records, Organization website.

**Sample size:** Sample size of past 5 years balance sheet of the company.

**Period of study:** The period of study is carried out from January 2023 to March 2023.

**Analytical Tools:** In this study Pay back period method, Net present value method, Average rate of returns method, Trend analysis, Variance analysis, Time series.

## **DATA ANALYSIS**

**Payback Period Analysis:**

| <b>Year</b> | <b>Initial investments</b> | <b>Annual cash Inflow</b> | <b>Payback period</b> |
|-------------|----------------------------|---------------------------|-----------------------|
| <b>2018</b> | 8,01,01,25,000             | 1,96,98,53,000            | 4.1                   |
| <b>2019</b> | 8,51,22,22,000             | 3,02,48,93,000            | 2.8                   |
| <b>2020</b> | 8,99,06,67,000             | 1,86,65,73,000            | 0.5                   |
| <b>2021</b> | 10,55,06,67,000            | 1,46,77,18,000            | 7.2                   |
| <b>2022</b> | 11,82,32,60,000            | 4,42,07,50,000            | 2.7                   |

## INFERENCE

The above details clearly shows that the payback period differs according to the amount invested in particular years. The 'X' axis denotes first five years from 2018 to 2022. The 'Y' axis denotes time period. In the first year 2018 the payback period 4.1 and the payback period for fifth year 2022 is 2.7 comparatively payback period for the year 2020 is less.

### Net Present Value Method

| Year | Cash outflows  | Discounting present value Table<br>(Present value of Re.1 @ 10 %) | Present Value of Net Cash Flows | Present value of Initial investment |
|------|----------------|-------------------------------------------------------------------|---------------------------------|-------------------------------------|
| 2018 | 1,96,98,53,000 | 0.909                                                             | 1,79,05,96,000                  | 7,28,12,04,000                      |
| 2019 | 3,02,48,93,000 | 0.826                                                             | 2,49,85,62,000                  | 7,03,10,95,000                      |
| 2020 | 1,86,65,73,000 | 0.751                                                             | 1,40,17,96,000                  | 6,75,19,91,000                      |
| 2021 | 1,46,77,18,000 | 0.683                                                             | 1,00,24,51,000                  | 7,20,61,06,000                      |
| 2022 | 4,42,07,50,000 | 0.621                                                             | 27,45,29,000                    | 7,34,22,44,000                      |
|      |                | TOTAL =                                                           | 6,96,79,34,000                  | 3,56,12,64,000                      |

### Interpretation

The acceptance rule using the Net Present Value method is to accept the investment project if its net present value is positive and to reject if it's NPV is negative. Positive contributes to the net wealth of the shareholders, which should result in the increased price of a firm's share. The positive net present value will result only if the project generates cash inflows at a rate higher than the opportunity cost of capital

**Average Rate of Return:**

| Year | Annual profit  | Investment      | Rate of Return<br>% |
|------|----------------|-----------------|---------------------|
| 2018 | 1,96,98,53,000 | 8,01,01,25,000  | 24.59%              |
| 2019 | 3,02,48,93,000 | 8,51,22,22,000  | 35.55%              |
| 2020 | 1,86,65,73,000 | 8,99,06,67,000  | 20.76%              |
| 2021 | 1,46,77,18,000 | 10,55,06,67,000 | 13.91%              |
| 2022 | 4,42,07,50,000 | 11,82,32,60,000 | 37.39%              |

**Interpretation:**

It shows that, in the year 2021 and in the year 2020 the company had lower expected rate of return than the minimum rate so the investment on the particular project can be reduced. In the year 2019 and 2022 the project has a higher rate of return than the minimum rate. Higher rate of return indicates that investment made in the particular year has higher cash inflow in the future.

**Trend Analysis:**

| YEAR | INVESTMENTS<br>(Y) | X  | XY                   | X <sup>2</sup> | Y = a + b x<br>(IN CRORES) |
|------|--------------------|----|----------------------|----------------|----------------------------|
| 2018 | 8,01,01,25,000     | -2 | -<br>16,02,02,50,000 | 4              | 7,25,39,31,200             |
| 2019 | 8,51,22,22,000     | -1 | -<br>8,51,22,22,000  | 1              | 8,41,56,59,700             |
| 2020 | 8,99,06,67,000     | 0  | 0                    | 0              | 9,57,73,88,200             |
| 2021 | 10,55,06,67,000    | 1  | 10,55,06,67,000      | 1              | 10,73,91,16,700            |
| 2022 | 11,82,32,60,000    | 2  | 2,36,45,20,000       | 4              | 11,90,08,45,200            |

|  |                                 |                   |                                    |                      |  |
|--|---------------------------------|-------------------|------------------------------------|----------------------|--|
|  | $\Sigma Y =$<br>47,88,69,41,000 | $\Sigma X =$<br>0 | $\Sigma XY =$ -<br>11,61,72,85,000 | $\Sigma X^2 =$<br>10 |  |
|--|---------------------------------|-------------------|------------------------------------|----------------------|--|

### INFERENCE:

The above table shows the trend analysis of the investment made by the company for their operations. The above table shows that the company is having an increasing trend for the past 5 years and also shows a positive way for the future investment.

### Linear Regression:

TO FIND THE RELATIONSHIP BETWEEN THE INITIAL INVESTMENT AND PAY BACK PERIOD

| INITIAL INVESTMENT (X) | PAY BACK PERIOD(Y) |
|------------------------|--------------------|
| 8,01,01,25,000         | 4.1                |
| 8,51,22,22,000         | 2.8                |
| 8,99,06,67,000         | 0.5                |
| 10,55,06,67,000        | 7.2                |
| 11,82,32,60,000        | 2.7                |

| X                            | Y                 | X*Y                             | X*X                               |
|------------------------------|-------------------|---------------------------------|-----------------------------------|
| 8,01,01,25,000               | 4.1               | 32,84,15,12,500                 | 6,41,62,10,25,200                 |
| 8,51,22,22,000               | 2.8               | 23,83,42,21,600                 | 7,24,57,92,33,800                 |
| 8,99,06,67,000               | 0.5               | 4, 49,53,33,500                 | 8,08,32,09,31,000                 |
| 10,55,06,67,000              | 7.2               | 75,96,48,02,400                 | 11,13,16,57,41,000                |
| 11,82,32,60,000              | 2.7               | 3,19,22,80,200                  | 13,97,89,47,70,000                |
| $\Sigma X = 47,88,69,41,000$ | $\Sigma Y = 17.3$ | $\Sigma XY = 1,40,32,81,50,200$ | $\Sigma X^2 = 46,85,58,17,01,000$ |

**Inference:**

regression equation is found to be  $163.6 - 0.219x$

**Time Series Analysis:**

TO FIND THE THREE YEAR MOVING AVERAGE TO DETERMINE THE TREND AND SHORT TERM FLUCTUATIONS

| Year | Annual profit  |
|------|----------------|
| 2018 | 1,96,98,53,000 |
| 2019 | 3,02,48,93,000 |
| 2020 | 1,86,65,73,000 |
| 2021 | 1,46,77,18,000 |
| 2022 | 4,42,07,50,000 |

**Solution:**

| Year | Annual profit<br>(IN CRORES) | Three year<br>moving total | Three year<br>moving<br>average | Short – term<br>fluctuations |
|------|------------------------------|----------------------------|---------------------------------|------------------------------|
| 2018 | 1.97                         | -----                      | ----                            | ---                          |
| 2019 | 3.02                         | 6.86                       | 2.29                            | 0.73                         |
| 2020 | 1.87                         | 6.36                       | 2.12                            | -0.25                        |
| 2021 | 1.47                         | 7.76                       | 2.59                            | -1.12                        |
| 2022 | 4.42                         | ----                       | ----                            | ----                         |

## **CHART - THREE YEAR MOVING AVERAGE TO DETERMINE THE TREND AND SHORT TERM FLUCTUATIONS**

### **INFERENCE:**

the above the short term fluctuations of the annual profit. The trend of the annual profit shows that for the year 2020 and 2021 shows a negative trend and negative fluctuations

### **SUGGESTIONS**

It is found that the payback period for the year 2021 is less. Hence, the company can decide to invest a greater per cent of money into the particular project which gained higher return in the year 2021.

- The company can decrease the production cost
- The company can anticipate and analyse the rate of return on investment through which possible losses can be avoided.
- The management should concentrate on various budgeting techniques in order to avoid possible losses and late realization of initial outlay.
- The management should be effective in capital budgeting
- Analysis of past performance of the company has to be made frequently in order to find out the mistakes and achievements
- Investment decision require special attention because they influence the firm's growth in the long run
- The management should consider all cash inflows to determine the true profitability of the project

### **CONCLUSION**

Through this study it is very clear that the budgeting techniques essentially involves evaluation of the worth of capital investment proposals based on estimates of cash inflows and outflows, trend analysis. The study emphasizes that efficient allocation of capital is the most important finance function in the modern times. Thus, capital budgeting or investment decisions are of considerable importance to the firm, since they tend to determine its value by influencing its growth, profitability and risk. The analysis of payback period and Average Rate of Returns conclude that management should take efforts to perform the capital budget in efficient manner.

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