2.1 Introduction:

Analysis means establishing a meaningful relationship between various items of the two financial statements with each other in such a way that a conclusion is drawn. Financial analysis is a scientific evaluation of the profitability and financial strength of any business concern. In fact financial statement analysis and financial performance have the same meaning and are generally used as synonyms. Financial analysis is the process of scientifically making a proper, critical and comparative evaluation of the profitability and financial health of a given concern through the application of the techniques of financial statement analysis. In the words of Metcalf and Titard, “Analysing financial statement is a process of evaluating the relationship between component part of a financial statement to obtain a better understanding of a firm’s position and performance.”

“Much can be learnt about business performance and financial position trough an appraisal of financial statements. The analysis of financial statements spotlights the significant facts and relationship concerning managerial performance, corporate efficiency, financial strength and weakness and credit worthiness that would have otherwise been buried in a maze of details.”

Analysis of financial statement focuses primarily on data provided in external reports plus supplementary information provided by
management. The analysis should identify major changes or turning points in trends, amounts and relationship. Financial statements are merely summaries of detailed financial information. Many different groups are interested in getting inside financial statements, especially investors and creditors. Their objectives are sometimes different but often related. Financial statement analysis can assist investors and creditors in finding the type of information they require for making decisions relating to their interests in a particular company.

Robert H. Wessel observes that, “Financial Analysis is process of Synthesis and Summarisation of Financial and operative data with a view to get an insight into the operative activities of a business enterprise. It is a technique of x-raying the financial position as well as progress of a concern.”

The need of financial analysis varies according to users – the management, bankers, creditors, investors, etc. It is quite natural that some techniques and tools should be evolved so that the figures of financial statements are clear and correct picture brought of light for the benefit of all. Any organization, whether public or private, has to live within financial constraints and to deliver perceived value for money to its shareholders the role of the finance function is to manage the financial resources of the organization, and to ensure that the financial constraints it faces are not breached failure to do this will lead to financial distress, and ultimately, for many organizations, to financial failure or bankruptcy. Thus, financial planning and control is an essential part of the overall management process. There are three main areas of focus for financial plans. Most basically, cash flow planning is required to ensure that the cash is available to meet the financial obligations of the organization. Failure to manage cash flows will result in technical insolvency. For business organizations, the second requiring
attention is profitability or the need to acquire resources at a greater rate than using them.

2.2 Research Methodology:

India has vast resources of livestock, which play a vital role in the national economy and also in the socio-economic development of rural households. The dairy industry plays a vital role in the growth and development of country. The Indian dairy sector contributes a large share in the agriculture gross domestic product (GDP). In India dairy cooperatives were formed only after 1912. The real beginning was made only after Second World War. The Khaira District co-operatives milk union Ltd. popularly known as “AMUL” was the first producer oriented dairy organized in 1946. This is union has proved that dairying can be best conducted if production, processing and marketing are owned and operated by the farmers themselves. The dairy co-operatives are organized in a three tire structure. This structure is proposed by the National Dairy Development Board and is known as “Anand Pattern.” Milk production has increased substantially with the efforts of the NDDB’s Operation Flood Programme. The performance of the Indian dairy sector over the past three decade has been extremely impressive. Milk production witnessed a significant growth of about 4.5% per annum to reach the level of 121.8 million tons during 2010-11 making India the largest producer of milk in the world.

2.2.1 Title of the Problem:

Co-operative activities in India are considered to be the largest in the world. India is a country based on agriculture. Dairy industry is closely associated with agriculture and animal husbandry. Though its contribution is considerable for the development of India, Dairy industry is one of them and has progressed noticeably. It has played an important role for the development of co-operative activities and provides
encouragement to them. The present study has made a modest attempt in assessing the financial health of the co-operative dairy units by applying accounting tools and techniques to the data of three district co-operatives dairy union in North Gujarat. The subject of the research is “Financial Analysis of the Co-operative Dairy Industry in the North Gujarat.” Research on the dairy industry will certainly benefit the persons associated with it, common people, students and government.

2.2.2 **Objective of the Study** :

The present study is an attempt to identify and evaluates financial analysis Indicators. The specific objectives of the study are as under:

- To inquiry in the profit and loss of dairy industry through different dimension.
- To compare the sources of money getting in finance structure.
- To inquiry how the distribution of different segments of society is done through value added statement.
- To analysis income and expense.
- To study dairy industry and government policy.
- To suggest ways and means to improve profitability without an addition of financial resource.
- To study the trend of profit in co-operative dairy industry in the last ten years.

2.2.3 **Scope of Study** :

Dairy co-operative plays a crucial role in the economic development of rural population of the country. They are expected to perform efficiently both physically and financially. In Gujarat, the original pattern of three tire co-operative dairying was based on “bottom to top approach.” Any inefficiency on its part will weaken the co-
operative dairying in the state and adversely affect the efforts towards the emancipation of living conditions of rural masses. However, the performance of dairy unit is cause for worry as they have failed to produce the desired result. The specific scopes of study are as under.

- Co-operative dairy industry has become a social institution. So it has affected the efficiency and profit and loss of dairy industry. As a result, it is a subject of study for dairy industry how to scope between profit and loss and welfare activities.

- Research in necessary to find the reasons of increase in management expenses of dairy industry and to think about improvement.

- It should be known to what extent farmers have been taken into account by co-operative dairy industry for growth of branch area.

- There is inequality of profit and loss of co-operative dairies.

- The production of milk is being increased day by day but demands do not increase in that proportion of milk and its products.

2.2.4 Limitations of the Study :

The limitations of the present study are as under:

- The data for this research is based on mainly published annual reports, publications and magazines.

- This study limited to co-operative dairies working in North Gujarat. Its conditions can not be applied to the whole co-operative dairy industry at national level.

- In the present study ratio analysis, common size income statement, value added statement etc. have been used. These
tools and techniques are not out of the verge of certain limitations of their own which also applies to present study.

- Some data have been collected through personal unstructured interviews of officers of co-operative dairy units. So there are possibilities of errors in the opinions of such officers which apply to the present study.

- Dairy industry may be working in private and co-operative sectors but this study is based only on the functions of the dairy industry in co-operative sector.

2.2.5 Sample Design:

This study based on the secondary data derived from annual published reports of the North Gujarat co-operative dairy units. Various researches have been conducted under commerce faculty of the Hemchandracharya North Gujarat University. However, no research has been conducted “Financial Analysis of the Co-operative Dairy Industry in the North Gujarat.” This is first attempt. Thus, this study would be an original contribution as the problem of the study is unique in every respect. However, this study is concerned three dairies of three districts out of four districts of North Gujarat. They are as follows.

(i) The Mehsana District Co-operative Milk Producers Union Ltd., Mehsana, Dist. Mehsana. (DUDHSAGAR DAIRY)

(ii) The Sabarkantha District Co-operative Milk Producers Union Ltd., Himmatnagar, Dist. Sabarkantha (SABAR DAIRY).

(iii) The Banaskantha District Co-operative Milk Producers Union Ltd., Palanpur, Dist. Banaskantha. (BANAS DAIRY)

This study is made for a period of ten years from 2002-03 to 2011-12.
2.2.6 Data Collection:

The main source of data used for the study is secondary, drawn from the annual profit and loss account and balance sheet figures as found in the annual reports of the selected units. Personal visits and unstructured interviews with the officials of the dairies constitute the main source of the data. In addition to that, financial literature, magazines, journals, articles and news papers on the related aspect have also been used in this study. The collected information was classified and tabulated with the help of statistical techniques like ratios, regression, common size statement, value added statement, the data were drawn. F-test has been applied to test the validity of hypothesis.

2.3 Research Methodology for Interpretation of Data:

This study is based on secondary data which will be taken from the annual reports of co-operative dairy units for the period from 2002-03 to 2011-12. Various publications have been used for the purpose. The unstructured personal interviews were undertaken by the researcher in order to ascertain the reliability of the secondary data and also understand internal and external factors affecting the profitability of the units.

The data obtained have been duly classified edited and tabulated under various groups and sub-groups as per requirements of the study. Statistical measures like mean, Regression Index Number have been applied. “F” test has been applied to test the validity of hypothesis. These have been presented as per the chapter plan. The chapter plans are as under.
CHAPTER-1 History and Growth of Dairy Industry:

In this chapter the history and development, problems and prospect of dairy industry in India and Gujarat have been included. History and growth of selected district level milk unions under study also have been included. The government policy regarding the dairy industry is also explained.

CHAPTER-2 Research Methodology and Conceptual Framework:

This chapter includes analysis of concept of financial statements, profit, profitability, measurement of profitability etc. It also covers the following aspects: title of the problem, data collection method, period of survey, objective of the study, scope of study, limitations of the study, survey of existing literature, and hypotheses and tools of analysis.

CHAPTER-3 Analysis of Common Size Statement:

In this chapter the meaning of the common size statement, advantages and limitations of common size statements have been discussed. Condensed and common size income statement of selected units have been prepared and analyzed. Inter firm comparison and findings have also been included.

CHAPTER-4 Analysis of Value Added Statement:

It covers the following aspects of value added, meanings, generation of value added, application of value added advantages and limitations of value added statements, analysis and interpretation of value added statements of selected units under study.
CHAPTER-5  Analysis of Profitability:

In this chapter the meaning of profitability measurement of profitability and frame work of various ratios have been discussed. The assets turnover rations, profit margin ratio and return on investment ratio have been calculated and discussed. It also includes the discussion of the regression analysis chi-square test and “F” test.

CHAPTER-6  Summary, Conclusions and Suggestion:

Brief summary of the chapter included for the present study have been given in this chapter. Moreover, major findings are included. The suggestions for progress of co-operative dairy industry have been presented.

2.4  Hypothesis :

In this source of the study two hypotheses (i) Null hypothesis and (ii) Alternative hypothesis have been taken and they have been tested with the help of chi-square test and ‘F’ test.

(i)  Hypothesis Based on Chi-square Test :

For purpose of establishing casual relation ship, regression line of variable “y” on variable “x” have been calculated in the selected dairy units because the relationship enables us in the prediction and control over the future course of action. The expected value of “y” has also been computed on the basis of the respective variables. Thereafter, the chi-square ($x^2$) test has been applied to find out whether the difference between the dairies and profit ratios and the regression line in various selected dairy units are significant or not by dividing the profit ratios in three point scaling. The statement of null hypothesis is that the variables in different dairy units under study are not significant, while the statement of alternative hypothesis is that the difference between the dairies and profit ratios of respective variables in different dairy units
under study are significant. The chi-square test is also known as the test of goodness or fitness or test of significance. If the table value of chi-square is greater than the 5% level of chi-square ($x^2$) it shows that the difference between the dairies and profit ratios will be insignificant and the result will be as per our expectations and the test holds good and null hypothesis will be accepted while the alternative hypothesis will be rejected.

(ii) **Hypothesis Based on “F” Test:**

When it is believed that two independent factors might have an effect on the responsible variable, two way classification “F” test is designed to measure the effect of the two factors simultaneously. A null hypothesis is taken that the variance appeared is not significant while and alternative hypothesis is also taken that the variance appeared is significant. Thereafter, the calculated values of “F” are compared with the table values. If the calculated value of “F” is higher then the table value at pre-assigned level of 5% significance, the null hypothesis is rejected, otherwise accepted.

Moreover, it has been assumed that the difference arose in the proportion of respective variables over the years and among the various units did not differ significantly. The difference between two variables is accidental.

### 2.5 Tools and Techniques:

For the present study following tools have been used for analysis of profitability North Gujarat Dairy unit of the Gujarat State.

#### 2.5.1 Accounting Tools:

(i) **Common Size Statement:**

Common size statement converts financial statement by expressing absolute rupee amount into percentage. Common size
analysis can make a comparison between different size firms much more meaningful since the numbers are brought to a common base percentage. Common size statement is miniatures of the originals. They are valuable to an analyst in studying the current financial position and operating results of an especially in making comparison between companies in the same industry. This method of analysis may be used in making a historical study of a particular business because major changes in the distribution of individual items revealed.

(ii) **Value Added Statement:**

Value Added Statement may be called the part of the development in the financial reporting but the concept of value added is considered old. Value added is the wealth generated by the entity through the collective efforts of capital providers, management and employees. A value added statement shows the wealth or value created and attributed to all stakeholders rather than just the shareholders. The value added statements has several advantages. Value added statement provides a very good measure of the size and importance of a company. The value added statement is a good measure of the overall productivity of the firm and it is out of the value added that the firm rewards all interested parties. Value added based ratio is useful diagnostic and predictive tools.

(iii) **Ratio Analysis:**

The modern technique of financial statement analysis is the ratio analysis. Often a ratio has the same significance as symptoms of illness like blood pressure, pulse, temperature of a person. Through rations an analyst can x-ray the financial growth, development and the present condition of a business enterprise. Ratio, as a tool of financial management, can be expressed as,
Comparison between numbers. Ratio analysis can make comparison between different size firms much more meaningful. Ratio analysis is a very powerful analytical tool useful for measuring performance and profitability of an organization. Ratio helps to summarize large quantities of financial data and to make qualitative judgment about the firm’s financial performance. Ratio analysis provides guides and clues especially in spotting trends towards better or poor performance and in finding out significant deviation from any average or relatively applicable standard.

2.5.2 Statistical Techniques:

Use of Statistical Techniques has become a normal phenomenon in any type of analysis. The statistical techniques which are proposed to be used in financial statement analysis of co-operative dairy units are as under.

(i) Mean.
(ii) Index.
(iii) Regression.
(iv) F-Test
(v) Chi-square test
(vi) Diagrammatic and Graphic Presentation of Data.

Diagrams and graphs are visual aids which give a bird’s eye view of given set of numerical data. They present the data in simple readily comprehensible and intelligible form. Graphic presentation of statistical data gives a pictorial effect to what would otherwise be just a mass of figures. Diagrams and graphs depict more information than the data shown in the table. These clarify existing trend in the data and how the
trend changes. Simple bar diagram and multiple bar diagrams are used in the study.

2.6 Review of Existing Literature on Dairying:

There are numerous studies made by scholar to evaluate dairy industry from different angle. The literature available so far has covered the history and growth of Indian dairy industry, the evaluation of co-operative dairy, the modalities of working of Anand Pattern, dairy development under government plan and operation flood programme etc. The following are some of the important studies made on dairying.

R.W. Nightingale (1963) compares the cost of marketing of milk under traditional marketing system under capital intensive marketing system of operation flood programme. This analysis reveals that the cost of marketing of milk under the traditional marketing method is much less than the cost under the marketing systems operation flood programme and suggests gradual modernization with small capital inputs.

P. Kumar and K.C. Rout (1974), in their study on economics response of feed on milk production for different types of feed of dairy cows in Haryana, found that feed was a significant factor influencing milk yield feed cost accounted for 60 to 70 percent of the total cost of production.

Thakur (1975) studied the impact of dairy development through milk co-operatives in Gujarat and found that annual income of sample of milk producers was higher in experimental villages as compared to control villages.

D.S. Thakar (1975) studies the progress of selected milk co-operatives in Gujarat and anal used their impact on the economic conditions of the farmers in general and weaker sections in particular.
The study covered four milk unions. Twenty four villages were selected randomly in the study area. Data were collected through a survey method and concluded that landless labour earned as much as 20 to 30 percent of their total income from dairying.

D.L. Saradiwala and J.C. Kalla (1975), in their study on comparative economics of cows and buffaloes in milk production in west Rajasthan found that the total cost of feeds and fodder accounted for about 60 to 70 percent and cost of labour for about 17 percent of the total cost of production. They considered cost of feeds and fodder, cost of labour, interest on capital investment and total upkeep of bulls in gross cost of milk production. They concluded that Moora buffaloes were economically more suitable for milk production as compared to the Haryana and Rathi cows.

G.K. Hiremath, et al. (1977) in their case study on the profitability of dairying with cross-breed cows in Hubli area of Karnataka state, studied the capital investment, annual expenditure and income. They found that dairying especially with cross-breed cows was a profitable enterprise for the farmers, especially the weaker sections. The rate of return as well as the rate of turnover indicated that the investment in cross-breed cows would be both remunerative and safe.

Jain et al. (1978) studied the growth of milk producers co-operatives in mehsana district of Gujarat. The sample villages in the milk shed area were selected and were studied for the growth of co-operative societies membership, share capital, volume of milk handled, price paid by different agencies. The data was scored under the benchmark and repeated surveys carried out by the Indian Agricultural Statistics Research Institute during 1968-69 and 1973-74 respectively. It was observed that there was a sizable increase in the number of village level milk producer’s co-operatives viz., from 230 to 380 between the two occasions, the membership of those, co-operatives also increased
from an average of 157 members per co-operatives on the first occasion to 240 on the second occasion and the share capital of their co-operatives increased from an average of Rs. 3448 per milk co-operative on the first occasion to Rs. 18842 on the second occasion. They also noticed that there was an overall increase in the number of persons employed by the milk co-operatives to assist in their functioning and the dairy milk collection of milk co-operative increased in second occasion during all three seasons.

G.K. Hiremath, et al. (1978) also studied that the profitability of dairy enterprises with buffaloes in Hubli-Dharwad area of Karnataka state. They concluded that dairying with buffalo was quite profitable in the area. They found that the profitability increased with the size of the dairy unit. The expenditure on feed contributed largely to the total and the lower price milk in the rural areas adversely affected the profitability of the milk production.

Jain (1980), In his study on dairy development, through co-operatives, discussed that dairy development in Rajasthan included various aspects, like evaluation of co-operatives system and its pattern of establishment, method of milk procurement, and processing : supply of technical inputs; animal breeding facilities, supply of cattle feed, training and extension. Supervision and the extent of co-operative programme.

S.P. Kalyankar (1980) Studies the economics of milk production in different breeds of cows and buffaloes maintained by an organised dairy farm of agricultural college, Akola Maharashtra. Analysis on an overall basis showed that the feed was the most important item of cost (51.5%) followed by labour (24.73%) Net Cost per liter of Milk production worked out to Rs. 2.66 on an overall basis.
Singh (1985) revealed that adoption of dairy innovations of the progressive village farmers was positively and significantly correlated with the total annual income of farmers.

V. Kulaingaismwamy (1980) has made an attempt to appraise the working of DCSs in Erode Milk Shed Area (EMSA) of Tamil Nadu, in the light of the successful Anand pattern in Gujarat State. This study concluded that all the basic ingredients on which the success of Anand Patten hinges were observed in the Erode Milk Shed Area also.

Singh and Kunzroo (1985) conducted study on farmers response towards goat production in Farah and Mathura villages in Uttar Pradesh and reported that goat and sheep rearing generated and average income of Rs. 500/-, piggery Rs. 600/- and fishers Rs. 8000/- per family per year.

C. Ratnam (1986) has made an attempt to analyse the demand and supply aspects of milk in the district of Vishakhapatnam in Andhra Pradesh. The study highlights the fact that demand has always surpassed supply of milk in the districts. To bridge the gap between these two, the researcher suggests that the effective measures like improved breeding and feeding higher procurement price of mil, etc., be taken.

Baviskar (1986) based on data collected during field in two villages of Surat district. The report traced the increase in the number of co-operative milk producer societies and their impact on dairy development in the tribal area of Gujarat. It focused upon milk co-operatives manages by Jesuit missionaries in the region presenting a detailed description of their internal organization. The main reason for the success of the Jesuit seen co-operative was found to lie with the loyalty of its members and integrity of its leaders. The secretary of dairy co-operative was found to be key functionary in the success of the project.
Surrender Singh’s (1986) study evaluates some of the implications of OP-II programme on Indian dairy sector. It concludes that due to shortage of livestock feed and fodder concentration in developed areas of the country, negligence of backward regions like hilly, tribal, arid, semi-arid areas and heavy dependence on donated commodities, etc., the OP-II does not seen to be a safe device to improve Indian dairying.

Bhanja, et al. (1987), examined the critical factors in organization of dairy co-operatives by selecting twenty one primary milk producers co-operative societies covering three milk production zones in Mehsana district of Gujarat. They observed that the societies were successful in the cases of members who joined a society besides economic reasons and realization of social benefits. Milk producers who are selling through milk vendors had came to know some malpractices made by vendors.

Rajvir Singh and Jitendra Singh (1988) while computing cost and return structure of commercial dairy herds in Karnal town (Haryana), considered different fixed costs such as cattle shed and stores, dairy equipment and adult animals. The variable costs included green fodder, dry fodder concentrates, labour, veterinary expenditure on animals, repairs and miscellaneous charges. They found that on average, milk yield per milch animal was about 5kg by using 30kg green fodder, 9kg dry fodder, 4kg concentrates and Rs. 2 on labour per day.

Jawan Ram (1988) made an attempt to analyse the organisation and working of Jaipur District co-operative union limited, Jaipur and Rajasthan. The study was conducted through personal interviews with management and other employees of the union. He studies the organisational structure and functions. Important functions such as (i) milk collection (ii) Supply of technical inputs, (iii) Farmers induction programmes, and (iv) Supervision, were closely observed. On the basis
of the analysis he noticed some drawbacks. At the end of the study the author had made some useful suggestions for improvement.

U.K. Pandy (1995) made an attempt in his paper to assess temporal and spatial changes in livestock wealth and also to identity the major constraints inhibiting the growth of the animal husbandry sector. The study is based on secondary data, and compound growth rates technique were computed to indicate an increase or decrease in livestock population during the inter-census periods.

Patil and Udo (1997) found that the Holstein Friesian and Jersey crossbreds are being widely adopted in mixed farming system. These crossbreds have a considerable impact, i.e. they give 1.8 times more milk than Desi, Gir and Kankraji cows and are accepted by both tribal and non-tribal farmers as they provide more farm income and employment opportunities.

Mrs. Heena Rawal (1999) studied the profitability of five district milk producer’s co-operative union Ltd. of Gujarat State. She studied costing and pricing practice of milk co-operative of Gujarat State. They found that the profitability increase by reducing the cost or increasing the total sales. The co-operative has not adopted a proper costing system and cost-volume profit method to control cost. Cost center has not been identified by any of the co-operative dairy.

Kale, et al. (2000) studied the financial position working and operational efficiency of 23 dairy co-operatives in Raigadh district of Maharashtra. They studied the economic efficiency through income expenditure ratio, expenditure income ratio, rate of return on capital and rate of turnover. They concluded that (i) the societies had low owned capital and were dependent on borrowing from financial institutions (ii) even though the working capital of the dairy co-operative was low, their turnover was high because dairy co-operative did not make payment to
milk producers from their own funds. Therefore, dairy co-operatives were able to carry on business with limited capital and (iii) majority of the societies was trading profit.

Patanye et. al. (2001) studied the effect of socio-economic variables on milk production of Marathawadi Buffalo in Parbhani, Jalna and Beed areas of Maharashtra region. They found that there is significant percentage of farmers who were in age group of 56 years and above obtained milk yield of 2.1 to 4 liters per day followed by below 25 years age group.

Rao et al. (2002) revealed that dairy farming was profitable venture in their prevailing life situation as it provided regular income to landless women. The prominent reasons offered by farmers for rearing cattle in the order of descending importance were:

- Regular cash income through sale of Milk.
- Less tedious than agriculture labour.
- Flexibility in working time.

It can be inferred from the above study that majority of the respondents have taken up dairying as main occupation and reason was regular cash income they obtained through sale of milk.

Gaur (2002) conducted a study on factors influencing improved animal husbandry practices of dairying in Anand and Vadodara districts of Gujarat State and revealed that two fifth of the respondents had low herd size followed by 32.80 percent with high and 26.74 percent with medium herd size.

Thokal et al. (2004) studied the effect of watering frequency on milk production in crossbred cows and reported that average milk yield decreased by 16 percent due to restriction of watering frequency at twice
a day and increased by 16.53 percent when watering frequency increased to twice a day.

V.M. Rao (2005), studied to evaluate impact of phase of iv of WDP in Bihar on women and draw lessons of future policy planning. They analysed various phase of WDP in term of its state objective and actual achievements and performance of women dairy co-operative functioning in the project area. They collected the history of selected women. The suggested suitable interventions with a view to improve the implementation of STEP programme.

Patel (2005) reported that a great majority (85.50%) of the respondents were found to be dependent on farming and animal husbandry. whereas 10 percent of them were engaged in farming, animal husbandry along with service. While only 4.50 percent of the respondents were dependent of farming, animal husbandry along with business as a source of income.

Chaudhary (2006) conducted a study in the operational area of Rural Development and Self Employment Training Institute, Dharwad to know entrepreneurial behaviour of dairy farmers. In the study, he found that 68.00 percent of trained and 66.00 percent of untrained dairy farmers belonged to middle age group, whereas 32.00 percent of trained and only 8.00 percent of untrained dairy farmers belonged young age group and 26.00 percent of untrained dairy farmers belonged to old age group, whereas no trained dairy farmers could be observed under old age category.

A.M. Patel (2007) studied on “A Performance Appraisal of Dairy Industry in Gujarat” by selecting nine district milk producer’s unions of Gujarat. Researcher has attempted to study how efficiency district milk producer’s unions are using their resources for enhancing the profitability position.
2.7 Financial Statement Concept:

Financial Statements, as used in many business houses, refer to a set of reports and schedules which an accountant prepares at the end of a period of time for a business enterprise. The financial statement are the means with the help of which the financial affairs of the business. The basic data with which the analyst must work is found in the financial statement. However, the ability to understand, interpret and use of the information given in the financial statement depends upon the understanding of finance. In the words of Philip E. Mayer, “Accounting has identified wealth and performance as phenomena for which measurement and communication are warranted. Wealth is measured by direct attention to an entity’s owner’s equity and performance is measured by focusing on the effect of an entity’s operating transactions on its owner’s equity. The medium through which such information is communicated is known as financial statement.”

The most important functions of accounting process is to accumulate and report historical accounting information. The most prominent example of such reports is the general purpose financial statement showing an organization’s financial position and results of its operations. These financial statements are the end result of the process of financial accounting. J.R. Monga says that, “The financial statement are the end products of the accounting process starting from the recording of business transactions expressed in money values.”

According to Hampton, “A financial statement is an organized collection of data organized according to logical and consistent accounting procedures.” Financial Statements are Summarized periodical reports of financial and operating data accumulated by an enterprise in its books of accounts. They accounting figures that are collected, tabulated and summarized by accounting methods are presented in financial statements. In fact, “financial statement themselves are organised summaries of detailed information and are, thus, a form of analysis, the type of statements accounts prepare, the way they arrange items on these statements and their standards of disclosures are all influenced by a desire to provide information in convenient form.”

“financial statements are prepared for the purpose of presenting a
periodical review or report on the progress by the management and deal with the (i) state of the investments in the business(ii) results achieved during the period under review.”  

There are basically two financial statements one the Balance sheet or position statement and the other, the profit and loss account or Income statement. The balance sheet and profit and loss account help in determining the financial position of a business on a defined date and its operational trends over a specific period of time. According to John N. Myer, “financial statement as used in modern business refers to the two statements prepared by the accountant at the end of a certain period for a business enterprise. They are the balance sheet and profit and loss statement. It has become customary for corporations to add a statement, the statement of retained earnings.”  

The statement of Balance sheet or position statement “often called the statement of resources, liabilities and owner’s equity shows the financial position, the cost of assets, the liabilities and the equity of owners as of a specific point in time.” In a balance sheet the assets and liabilities are equal to each other. In the words of Pule, While and Larson, “A balance sheet is so called its two sides must always balance, the sum of the assets shown on the balance sheet must equal liabilities plus owner equity.” A balance sheet is a ‘status report’ and as such it shows ‘what we have’ and from ‘where’ on the last date of the accounting year. According to R.N. Anthony, “A balance sheet shows the financial position of an entity as of a specified moment of time; In fact, it is sometimes labeled as a statement of financial position. It is therefore a status report rather than a flow report.”  

“The Income statement is the condensed and classified record of the gains and losses causing the changes in the owner’s interest in the business for a period of time.” It presents a summary of an entity’s revenue and expenditure transactions as well as income from

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investments, gains and losses with the resulting excess identified as either net income or net loss. “It tells the story of operations over the fiscal period just past.”\textsuperscript{14} “The trading and profit and loss account shows the profit or loss made by a business during an accounting period.”\textsuperscript{15}

**2.8 Usefulness of Financial Statements:**

Financial statements help you to see a snapshot of your company’s financial position, they are decision making tools. It is the words of Bierman Jr. and Drebin, “Financial Statements are prepared primarily for decision making. The statement are not an end in themselves, but must be useful in a decision making context.”\textsuperscript{16} “The end product of financial accounting is a set of financial statement prepared by the accountant of a business enterprise that support to reveal the financial position of the enterprise, the result of its recent activities, an analysis of what was done with earning so that the facts may be readily interpreted and used as bases for decision by all people who are interested in affairs of business.”\textsuperscript{17} Shuckett and Mock observe that financial statement “may reveal short comings in control or indicate major areas for changes in corporate policy.”\textsuperscript{18} Financial statements are of a very great help in understanding the progress, position and prospects of the business, financial statement by helping the management to be acquainted with the causes of the business results, enable them to formulate appropriate polices and courses of action for the future. The published financial statement of a unit serve two purpose:- for the public, they are a window on the management of unit in as much as they reveal many facts about the financial development of units; to the management, they are its eyes in as much as they reveal the strength and weakness and also trends in the finances of the unit in the ligid of which the management can take appropriate steps to set matters right. The financial statement serve as a useful guide for the shareholders, stockholders, bankers, financial analysts, creditors,
research worker and Government authorities. It provides reliable financial information about economic resources and obligations of a business enterprise. Other information related to the financial statement that is relevant to the needs of the users of these statements.

2.9 Profit:

A business concern exists today with an objective of making profit is the yardstick of its success. The profit, in the accounting language, is known as the excess of revenue from operations over expenditure. Profit is a main goal for establishing a business concern. Profits are the soul of the business without which it is lifeless. Profit is a primary motivating force for economic activities. The word profit has been defined in a number of ways. In the words of David son, Stickney and Wiel, “The term’s net income earnings and profits are synonymous used interchangeably in corporate annual reports.”19 According to Kohler, “A general term for the excess of revenue, proceeds or selling price over related costs.”20 Profit is a very important aspect of business. “The principal motivating force behind conduction business is profit. Perhaps the most important reason for keeping accounts, as far as the management of a business is concerned, is that the information contained in them provides the means of measuring the progress of the business of testing its pulse and indicating when and where remedial action if necessary shall be taken.” 21 The task of management is maximization of profits. The efficiency of a business is measured by the amount of profit earned. The greater the profit, the more efficient is the business considered to be. A company should earn profits to survive and grow over a long period of time. Profits are essential, but it would be wrong to assume that every action initiated by the management of a company should be aimed at maximization of profits, irrespective of social consequences. It is a fact that sufficient profits must be earned to sustain the operations of the business to be able to obtain funds from
investors for expansion and to contribute towards the social overheads for the welfare of the society. Profit is measure of surplus wealth generated by a business concern form its operations. The measurement of profits in the continuing business concentrates place on periodic basis. The word ‘profit’ implies a comparison of the operations of business between two specific dates, which are usually separated by an interval of one year. No company can survive of its effectiveness; and in a capitalist society, there is no future for a private enterprise which always incurs loss. Profit is a signal for the allocation of resources and a yardstick for judging the managerial efficiency. “To the financial management, profits are the test of efficiency and a measure of controls, the owners, a measure of the worth of their investment, to the creditors, the margin of safety to the employees a source of fringe benefits to the government a measure of taxable capacity and the basis of legislative action, to the country profit index of economic progress, national generated and rise in the standard living.” Profit can arise when the price paid by the customers for the product of the business firm exceeds the cost that has been incurred for it. Profit has been defined in a number of ways by accountants, economist and other as per its use and purpose. There have been many theoretical discussion of the concept of profit, but there is no consensus on the precise definition of this theoretical construct. There are two main concepts. One is accounting concept and other is economic concept. Both the concept of profit represents as an excess of revenue over the total cost differs in these two concepts. As a result the accounting concept of profit differs from economic concept and the figure of accounting profit will differ from that of economic profit. However, the various concepts of profit have been shown below which will give clear conception of profit.
2.9.1 Accounting Profit:

In accounting, the word ‘profit’ is used almost invariably with some qualifying words or phrases. In the report of a special committee of the American Institute of Accountants, the word ‘profit’ is modified in thirty different ways. According to this report the accountant usually means by the term ‘profit’ the excess of the selling price over the cost of anything. In a very broad term, in the asset and liabilities view, earnings are determined as a measure of change in net economic resources of a business enterprise for a period. In revenue and expense view, earnings are equal to the difference between revenue and cost of earning that revenue as also ascertainment of this cost in bulk of the job of accounting. Here, “earnings are a direct measure of the effectiveness of an enterprise in using its inputs to obtain and sell outputs and are not necessarily based on or limited to change in net economic resources.”

In this sense, accounting profit is known as the excess of total revenues over their total costs of during a given period. Thus, accounting profit lies in the difference between the current value of sales minus the historic cost of expenses plus the retained capital gains i.e. the difference between the proceeds from irregular disposal of assets minus historic cost minus depreciation of irregularly disposed assets.

2.9.2 Types of Accounting Profit:

Business is conducted primarily to earn profit. The terms ‘profit’, ‘income’ and ‘earning’ are similar and they are used interchangeably. Generally the income statement can be “multiple steps” income statement or “single step” income step. The profit under “multiple steps” income statement is determined in various steps like gross profit, the operating profit or the operating profit before interest and taxes, the net profit, viz. the net profit before tax and the net profit after tax and the profit available to shareholder.
2.9.2.1 Gross Profit :

Gross profit is the difference between sales and manufacturing cost of goods sold. A number of companies in India define gross profit differently. They define it as earnings profit before depreciation, interest and taxes.

2.9.2.2 Operating Profit :

The operating profit is calculated by deducting the operating expenses such as administration expenses, selling and distribution expenses from gross profit. Operating profit includes all net income before taxes produced by operating assets and excludes any items of non-operating income, such as rental income from leased property and non-operating expenses, such as interest payments. In other words, the operating assets produce a stream of income known as operating income.\(^\text{25}\)

2.9.2.3 Net Profit :

Net profit reveals the firm’s overall profitability. It is calculated by deducting non-operating expenses interest paid, losses from sale of assets, writing off different expenses, payment of tax etc. and adding non-operating incomes (interest and dividend received, profit on sale of assets) from operating profits. The resultant figure is net profit before tax. Kohler defines “Net profit as the profit remaining from revenue after deducting related costs.”\(^\text{26}\) If the provision for tax is deducted from the net profit before tax, the result is net profit after tax.

- **Profit Available to Equity Shareholders :**

  If preference dividend is deducted from the net profit after tax, the rest income will be available to equity share holders.

  “The excess of revenue over related costs applicable to a transaction, a group of transaction of an operating profit is profit.”\(^\text{27}\)
Explicit items of expenditure generally includes, raw material consumed, direct expenses, salaries & wages administrative expenses, selling and distribution expenses, depreciation and interest on capital of business firm. “The difference between the sales price and the costs of producing and selling that product is its profit.”

2.9.2.4 Economic Profit:

Back in 1939 the famous economist J.R. Hicks defined a man’s income as “the maximum value which he can consume during a week, and still expect to be as well off at the end of the week as he was at the beginning.” Economic profit is the residual of income meeting all the ‘explicit’ and ‘implicit’ items of expenditure for a given period. The term explicit item of expenditure has the same meaning that have been discussed in “accounting profit”, but the implicit items of expenditure includes the amount of those factors of production which are owned by owner for example the rent of own land and building, the interest of own capital and salary of owner are termed as “Implicit cost,” or “opportunity costs”. However, the term economic profit in the form of equation can be represented as under:

\[ \text{Economic profit} = \text{Accounting profit} - \text{Implicit costs}. \]

In economics the accounting profit is known as gross profit while the profit remaining after subtracting the implicit cost of owner’s time and capital invested is known as “pure profit”. To determine economic profit a competitive or normal rate of payment for services of capital supplied by the firm must be subtracted from the profit for the period as determined by conventional accounting methods. The capital supplied by the firm is the market value of land, plant, equipment, the working capital net of amounts borrowed against the physical assets. In this sense, ‘economic profit’ is the residue of income after all the contractual
and not contractual payments have been made from the revenue realized during a given period of time.

### 2.9.2.5 Social Profit:

The business units are using natural resources of the society. So they should be accountable towards the society which provided the resources. Therefore, social responsibility of the enterprise has been stressed. An increasing awareness of the social responsibilities on the part of a business unit has lead to the discussion of “Social profit”, Eichrorn and clerk Abt. Associated of U.S. has suggested “Social statement Approach for social accounting in which the term ‘social profit or social surpluses has been defined. Under this approach, the excess of social benefits over social cost is termed as ‘social profit’ or ‘social surplus.’ The social benefits made available to the society by the business unit include the employment generation, payments for goods and other services, taxes paid, contributions, dividends and interest paid, additional direct employee benefits like area. Ting good townships, offering good condition of work environmental improvements. Any cost, sacrifice which proves a detriment of society, whether economic or non-economic, internal or external is termed as social costs. Social costs include goods and materials acquired, building and equipment purchased, labor and services used, work related to injuries and illness, public services and facilities used, environment damages like terrain damage, air pollution, water pollution, noise pollution, solid waste, visual and aesthetic pollution. However, there is no clear concept for measuring social benefits and social costs.

### 2.9.3 Accounting Profit and Economic Profit:

The concept of accounting profit and economic profit differ from each other from the view point of opportunity cost of capital invested and cost of owner’s time. For the calculation of economic profit,
opportunity cost of capital and owner’s time is considered while calculating accounting profit it is ignored by accountants. In accounting the “profit is deemed to be the joint result of various factors of production while in economic, it is termed as the rent liability, the wages of owner and the reward of risk bearing.

The difference between accounting profit and economic profit can also be presented as follows:

**Accounting profit**

\[
\text{Total Revenues} = \text{Accounting profit} + \text{Explicit profit}
\]

**Economic profit**

\[
\text{Total Revenues} = \text{Economic profit} + \text{Implicit} + \text{Explicit profit}
\]

Thus, the basic difference between accounting profit and economic profit is due to implicit cost.

### 2.9.4 Accounting Profit and Social Profit:

Accounting profit lies in the difference between the current values of sales minus the historic cost of expense plus the retained capital gains. However, social profit lies in the difference between social benefits and social costs. Thus, it is clear from the above discussion that accounting profit includes all the activities of a business concern while social profit includes only social activities of a business concern.

### 2.10 Concept of Profitability:

The word ‘profitability’ is composed of two words, namely; profit and ability. The term profit has already been discussed at length in detail. The term ability indicates the power of a firm to earn profits. The ability of an enterprise also denotes its earning power or operating performance. The business ability points towards the financial and operational ability of the business. So, on this basis profitability may be
defined as “the ability of a given instrument to earn a return from its use.” In the words of Weston and Brigham, “Profitability as, the net surplus of a large number of policies and decisions.” According to Gibson and Boyer, “Profitability is the ability of the firm to generate earning.” Profitability is an indication of the efficiency with which the operations of the enterprise are carried on. Poor operational performance may indicate poor sales and hence poor profits. A lower profitability may arise due to the lack of control over expenses. In accountancy, profitability may be described as a yardstick of the enterprise performance and indicate public acceptance of the products. It is a relative concept which regulates and controls management policy and decision. The profitability ratio shows the combined effects of liquidity, asset management and debt management on operating results.

2.10.1 Profit and Profitability:

Profit and profitability are closely related and mutually interdependent, yet they are two different concepts. “The accounting concept of profit measures what have been accumulated, the analytical concept of profitability is concerned with future accumulation of wealth.” Profit of an enterprise, reports about the financial and operational efficiency of the business. Whereas, profitability interprets the term profit in relation to other elements likely to affect these profits in order to help in decision-making. Profit is the excess of net sale revenue over the cost of goods sold while profitability is the profit making ability of the business firm showing either steady or increased or decreased state of such ability during a specified time. Profit is an absolute connotation showing absolute figure which alone can not give an exact idea of changes in efficiency of business firm whereas profitability is a relative concept which gives a clear idea of variation in efficiency. Thus, profit and profitability are two different concepts; however, they are closely related and mutually interdependent, having
distinct role in business. We may find having same amount of sales in two different business firms the profitability may not be equal or unequal profit-margins. That is why R.S. Kulshresth has rightly stated that “Profit in two separate business concern may be identical, yet, many a time it usually happens that their profitability varies when measured in terms of size of investment.”

Hence, it can be said that profitability is broader concept comparing to the concept of profit. Profitability is the overall measure of efficiency. The income as compared to the capital employed indicates profitability of a firm.

2.10.2 Productivity and Profitability:

The analysis of business firm can be evaluated or measured from a various ways, and there are various quantitative as well as qualitative criteria that can be employed for this purpose. Productivity and profitability is the two separate devices for the measurement of overall efficiency of a business firm.

\[
\text{Productivity} = \frac{\text{Output}}{\text{Input}}
\]

Productivity is defined as the ratio of outputs to inputs, outputs n the form of products or services and inputs are the resources which are put in to convert into outputs.” It is the quality or state of being productive. It is a concept that guides the management of production system and measures its success. It is the quality that indicates how efficiently the material, the labor, the capital and the energy can be utilized. Measurement and Analysis of productivity can help to identify area for corrective actions towards planning of business firm.

Capital and labor happen to be the two most important factors of production and the profitability of the business firms depends greatly on how efficiently and effectively it utilizes these two factors of production. The productivity of capital can be measured by the ratio of out-put to capital employed. The higher the ratio the greater would be the productivity of capital. If productivity of business firm increases, the
profitability will also increase. Thus profitability of the business firm largely depends on the productivity. Though both are different concepts of measuring the performance of business, their calculation same base on the ratio. The calculation formula as under:

\[
\text{Profitability} = \frac{\text{Operating Income}}{\text{Operating Assets}}
\]

Here Operating Income means income from utilization of capital employed in the business firm and Operating Assets means capital employed. Chen and Mc Garrach pointed out that, “With due allowance for temporary currency value fluctuations or changes in commodity or product price, there is strong positive co-relation among time series data measuring productivity, profitability and efficiency.”

Profit may be high or low due to change in selling price of commodities and services, inflationary effects, Government policy etc. This does not mean that productivity has also been affected. According to Dr. Shrivastava, “Between cost and profitability there are actually so many other factors besides productivity. The stresses of development and the market mechanism may be playing their due role in inflating the profitability of a producing unit, while relationization of efforts in every direction is the true basic of productivity.”

Increase in productivity leads to greater profitability with an increase in large production. However, this will be true only when productivity increases in large production as compare to overall increase in the cost of production i.e. increase in money wages, materials and other manufacturing expenses. If the productivity increases to the event of cost increase only, profitability remains unchanged. On the other hand, any decrease in productivity generally tends to reduce the profitability of an enterprise. At last, the term productivity means the rate of production measured in terms of labor, material or machines. The term profitability means the rate of profit earned, measured in terms of capital employed.
2.10.3 Profitability and Efficiency:

Profitability reflects the final result of business operations. Profitability is also not synonymous with ‘Efficiency’ though it is an index of efficiency; it is regarded as a measure of efficiency and management guide to greater yardstick of efficiency, but the extent of profitability can not be taken as a final proof of efficiency. Sometime satisfactory profits can mask inefficiency and conversely, a proper degree of efficiency can be accompanied by an absence of profit. The net profit figure simply reveals a satisfactory balance between the values received and value given. The change in operational efficiency is merely one of many factors on which profitability of an enterprise largely depends between cost and profitability. Moreover, there are many other factors besides efficiency which affects the profitability.

2.10.4 Factors Affecting the Profitability:

The following are the two main factors which affects the profitability of a business firm.

1. The Operational profit margin
2. The Rapidity of turnover of capital employed.

Profitability is the product of these two factors and therefore maximum or optimum profits can be earned only by maximizing them. In technical terms, the combination of these two factors is known as the ‘Triangular Relationship.’ Its significance exits not only in its use as an analytical tool but also because the profitability ratio can be calculated directly from the specific earnings and investment data. It is also useful in explaining the two forces bearing upon ultimate results and therefore; establishes the area of business operations which must be properly controlled is expected results are to be achieved. The Triangular Relationship has been shown in the following figure.  \(^{37}\)
It can be shown in an equation form as under:

\[
\text{Profitability} = \frac{\text{Sales}}{\text{Operating Assets}} \times \frac{\text{Operating Income}}{\text{Sales}} \times \frac{\text{Operating Income}}{\text{Operating Assets}}
\]

Where “Operating Assets” are used for capital employed and income from utilization of capital employed in the business firm, respectively.

The inter-relationship between the above ratios has to be understood with a view to analyzing profitability. The rate of return on investment is the result of the profit margin and turnover of assets in sales. These two components are multiplied for arriving at the profit percentage on investment. Each of these two components is itself an end-product of a sequence of interrelated factors. These components are helpful in investigating financial composition, analyzing current financial position and formulating the financial forecasting for future of a business firm. Moreover, the inter relationship can also be well understood with the help of Du-Pont chart.

2.11 The Du-Pont Chart:

E.I. Du Pont De Nemous and company Wilmington, U.S.A. originally develops this chart. It was first put in operation in 1921, when E.I. Du Pont was the president of the company. The Du Pont chart is considered to be an operationally useful tool for evolution of inter-industry profitability. The mechanics of Du Pont chart system of control utilizes the ratio inter-relationship and develops a series of chart to derive the attention of management to desirable and undesirable trends of the concern—once a company succeeds in developing reasonable standards of performance regarding the various ratios, the performance changes can be easily judged with the help of such a system. The main
objective of Du Pont system is to isolate the elements entering into the final figure in order to appraise the affect of individual factor on the performance. The profit performance of business firm can be analyzed with the help of Du-Pont chart. A modified chart is given on next page.38

It is clear from the Du-Pont chart that the rate of return on investment is affected by a number of factors. It may be noted that the analytical chain in this chart is developed along with tires. The first sequence starts with the net profit margin, shown in percentage, which is calculated by dividing net profit by net sales; net profit is equal to net sales plus non operating surplus less total cost and the total cost include cost of goods sold, operating expenses, interest and tax. In the second tier the sequence stats with total assets turnover, determined by dividing net sales by total assets. Total assets, of course, represents current plus net fixed assets. Current assets include cash and bank balance, receivables, inventories and other current assets.
“The two tier approach concentrates attention on the separate forms contributing profit, Improvement can be accomplished either through more effective use of available capital measured by the turnover sequence or through a better relationship between sales and expense measured by the profit margin sequence. For providing standard of evaluations, calculations are made on the ratio of return investments assets turnover and profit margin for compatible companies.”

Lastly, the financial decisions and policy matter decisions to the various factors shown in Du Pont chart also affects the profitability. “Financial decisions affect both, the size of earnings stream or profitability and risk ness of the firm. Policy decisions affect, risk and profitability.”

2.12 Importance of Profitability:

Profit is the soul of the business without which it is lifeless, for that profitability is a good device which represents the earning of a business firm. Modern management is engaged in the task of maximizing the profits and wealth. The efficiency of management is measured by the profitability of the business; the greater is the profitability of the business, the more will be the efficiency. “An analysis of the profitability reveals as to how the position of profit stands as result of total transactions made during the year. It need not be stressed that profitability is analyzed through the computation of profit ratios.” Profitability of a business firm is very much helpful to the management, creditors and share-holders of business firm. The management of a business firm has to take some crucial managerial decision like further expansion, raising of additional finance and problem of bonus and dividend payments etc. and for this purpose the management greatly rely-upon the profitability of the business firm. Moreover, management can evaluate the operational efficiency of the business firm. The creditors of a business firm are also interested in the
profitability of business firm. On the basis of profitability they decide their policy regarding the business firm. The share holders are equally interested in the profitability of the company. The share holders of a business firm cannot be judge by absolute size of its periodic profit for that profitability is a good device which represents the earning capacity of a business firm. Modern management is engaged in the task of maximizing the profits and wealth. Profitability of a business firm is very much helpful to the management, creditors and share holders of business firm. The management of a business firm has to take some crucial managerial decision like further expansion, raising and additional finance and problem of bonus and dividend payments etc. and for this purpose the management greatly rely-upon the profitability of the business firm. Moreover, management can evaluate the operational efficiency of the business firm. The creditors of a business firm are also interested in the profitability of business firm. On the basis of profitability they decide their policy regarding the business firm. The share holders are equally interested in the profitability of the company. The share holders can take the decision weather to hold their equity share in the company or not, on the basis of profitability. Thus the management, creditors and owners of the company are equally interested in the profitability of the company.

### 2.13 Techniques to Measure Profitability through Financial Statement:

Figures are dumb. However, they may tell a vivid story of the financial adventure of an enterprise in analyzed. Financial analysis is a process of getting an insight into the operating activities of a business enterprise. It is a process of selection, relation and evaluation. The first step is to select from the total information available about a business the data relevant to the decision under consideration. The second is to arrange the relevant data in a way that will bring out signification
relationship. The final step is to study these relationships and evaluate or interpret the result.

Trading and profit and loss account, Balance sheet and other statement prepared at the end of the year do not always convey to the reader any real significance of operating results and financial health of the business. Such financial statements at the most present various facts. Whether they include a good, bad or indifferent managerial performance of whether they point to probability of future success or failure is for the reader to conclude. And rarely can satisfactory diagnosis be reached on the basis of such information alone. In order to make such statements more meaningful the use resorts to the techniques of analysis. Financial analysis is a process of evaluating relationship between various components to obtain better understanding of a firm’s position and performance. It is the process of identifying the financial strength and weaknesses of the firm by properly establishing relationship between the items in the Balance sheet and loss account. The objective of the study is to evaluate the financial performance of dairy industry in Gujarat to obtain a better understanding of its position and performance. For analyzing the financial data and interpreting them in systematic manner tools such as comparative financial and operating statement common size statements, ratios and fund flow statements are commonly used.

2.13.1 Ratio Analysis:

Ratio analysis has emerged as the principal technique of analysis of financial statements. It is an attempt to present the information of the financial statement in simplified, systematised and summarised from be establishing the quantitative relationship of the items or group of items of financial statements. The system of analysis of financial statements by means of ratios was first made in 1919 by Alexander wall. A ratio is defined as “the indicated quotient of two mathematical expressions” and as “the relationship between two or more things.” To evaluate the
financial condition and performance of an enterprise, the financial analyst needs certain yardsticks. One of such yardsticks frequently used is a ratio relating two pieces of financial data to each other. Ratio, as a tool of financial management can be expressed as percentage, fraction and a stated comparison between numbers.

In the words of J. Batty, “The term of accounting ratio is used to describe significant relationships which exist between figures shown in a balance sheet, in a profit and loss account, in budgetary control system or in any other part of the accounting organisation.” Hunt et al observe: “Ratio are simply a means of highlighting in arithmetical terms the relationship between figures drawn from financial statements.” According to R.N. Anthony, “A ratio is an assessment of relationship of a unit in relation to another which is taken as a standard or one number expressed in terms of another and it is found by dividing one number, the base into another.” Ratio Analysis is one of the prevalent and the most popular technique to measure to profitability of a business firm. Ratio Analysis is a powerful tool for unraveling the underlying reasons for the financial structure, conditions and trends of business. Such an analysis helps in performance and finding out significant derivations from any average or relatively applicable standards.

2.13.1.1 Importance of Ratio Analysis :

The importance of the ratio analysis depends on the purpose of which it is made by the analyst. The important points of importance of ratio Analysis are as under:

➢ Ratio analysis is a very powerful analytical tool useful for measuring performance of an organization.

➢ The results of two companies engaged in the same business can be easily compared with the help of ratio analysis.
By effectively using the ratios, one can find out the growth or decline of an enterprise with the help of them, future actions can be taken.

The ratio analysis helps the management to analyse the past performance of the firm and to make further projections.

Ratio analysis allows interested parties and analysts to make an evaluation of certain aspects of a firm’s performance.

The appraisal of the ratios will make proper analysis about the strength and weaknesses of the firm’s operations.

2.13.1.2 Limitations of Ratio Analysis:

The following limitations must be taken into Account.

Ratio provides only guidelines to the management. They are only means.

The standards will differ from industry to industry. Comparison of ratios of firms belonging of different industries is not suggested.

The reliability and significance attached to ratios depend on the accuracy of data based on which ratio is calculated.

The analysis of ratios clarifies trends and weaknesses in performance as a guide to action, as long as proper comparisons are made and the reasons for adverse trends or deviations from the norm are investigated thoroughly.
2.13.1.3 Kinds of Ratios:

Financial ratio may be classified a number of ways. On the basis accounting ratios may be classified into four categories.

(i) Liquidity Ratio

(ii) Turnover Ratio

(iii) Leverage Ratio

(iv) Profitability Ratio

(i) Liquidity Ratio:

The liquidity ratios measure the liquidity of the firm and its ability to meet its maturing short-term obligations. Liquidity is defined as the ability to realize value in money, the most liquid of assets. The management can employ these ratios to ascertain how efficiently it has utilising the working capital. Too little liquidity then may lead to frustration, business objections, reduced rate of return, missing of profitable business opportunities and weakening of morale. The important ratios in measuring short-term solvency are current Ratio, Quick Ratio, Absolute liquid Ratio and Defensive-Interval Ratio.

(ii) Turnover Ratio:

Turn over ratios measure how effectively the firm employs its resources. Turnover Ratio is also called activity or Asset. Turnover ratio involves comparison between the level of sales and investment in various accounts – inventories, debtors, fixed asset, etc. Turnover Ratio is used to measure the speed with which various accounts are converted into cash. The important turn over ratios are inventory turn over, debtors ratio, creditors ratio, total assets Turn over ratio, fixed asset turn over ratio and working capital turn over ratio. These ratios also analyse the use of resource and the utility of each component of total assets the
profitability of the firm can be determined by activity ratio coupled with the degree of leverage.

(iii) **Leverage Ratio** :

Leverage ratios are calculated to judge the long term solvency or financial position of the firm. “Leverage ratios may be defined as financial ratios which highlights on the long term solvency of a firm as reflected in its ability to assure the long-term creditors with regards to (i) periodic payment of interest during the period of the loan, and (ii) repayment of principal on maturity or in pre-determined installments at due dates.”

Two types of ratios are commonly used to analyse financial leverage, structured ratios and coverage ratios. Structured ratios and coverage proportions of debt and equity are the financial structure of the firm. The important structural ratios are debt-equity ratio and debt-assets ratio. Coverage ratio shows the relationship between debt servicing commitments and the sources for meeting these burdens. The important coverage ratios are interest coverage ratio and cash flow coverage ratio.

(iv) **Profitability Ratios** :

Profitability reflects the final result of business operations. These are two types of Profitability ratios and rate of return ratios. Profit margin ratios show the relationship between profit and sales. Two popular profit margin ratios are gross profit margin ratio and net profit margin ratio. The rate of return ratios reflects the relationship between profit and investment. The important rate of return ratios measure are net income to total assets, net income to net worth and net income to equity funds.
2.13.2 Comparative and Common Size Income Statement Analysis:

Profitability analysis is very useful on comparative basis, so it is of paramount importance that a series of statements over a period of years should be used. Comparative and common size income statement is the simplest technique of Profitability analysis. In this technique, the figure of net sales is taken equal to one hundred and the percentages of individual items are computed likewise. The statements so prepared provide a common basis for comparison as such the statement is termed as the common-size statement. The trend revealed by common-size is more authentic as it shows – “Qualitative assessment” as opposed to “Quantitative assessment” shown by absolute figures.

This statement shows two important problems, which are as under:

i. It follows the concern of widely differing size to be directly compared.

ii. It allows an accurate comparison of financial activities of a company which have greatly changed in size over a few years.

2.13.3 Value Added Analysis:

In this method two statements are prepared to show the generation valued added and the application of value added. Value generated is computed by subtracting the total of the cost of bought in materials and services from the amount of sales plus income from services which is termed as Gross value added. From Gross value added its depreciation is deducted resultant figure is termed as net value added. The net value added amount is distributed among four parties like (i) Employees (ii) Government (iii) Providers of capital out-siders and share-holders and (iv) Business firm itself. The value added statement
also reveals the percentage of decrease is net value added and retained earning over years and helps to comment on the profitability.

2.13.4 Economic Value Added :

The EVA Model

- Risk Adjusted Cost of capital
  - Cost of Debt
    - Leverage
    - Interest Rate
  - Cost of Equity
    - Risk Free Rate
    - Systematic Risk
- Free Cash Flow *
  - Change in Capital investment
    - Cash Flow
    - Adjust for Systematic Risk
    - Taxes from Operation
    - Interest from Sale

Here free cash flow = Revenue - Operating Cost
- Investment to sustain earning

EVA is a hot new accounting tool. The technique of economic value added (EVA) has acquired acceptance as a tool for assessing the existing financial status and predicting the future performance of a company popularized by the New York (US) Based advisory firm Stewart and Co. It encompasses all aspects of a company’s financial management, from capital budgeting, acquisition pricing to strategic planning and share holder’s communications, a part from identifying the during a specific period. The mechanism of EVA is very simple. It seeks to enjoy manager’s memories by deducting from a firm’s net operating profit a changes for the firm is adding value for its share holders. It the EVA is negative the firm is destroying shareholders wealth even though it may be reporting a positive and growing EPS or ROE.”

The EVA model indicates that EVA is the net result of express of risk adjusted cost if the capital employed to generate cash flows. It has
been observed that many factors like the estimation of stock market data that for analyzing the adjustment for systematic risk represented in calculating EVA do not form a part of standard accounting procedures. Since the finance managers are not used to representing the financial performance of an organization in such a way that found difficulties in comparing EVA using not traditional parameters.

2.13.5 Other Techniques of Measurements:

Various statistical techniques are used to provide a more accurate and scientific measurement form profitability analysis. These techniques are moving average, index numbers, regression, chi-square test, ‘f’ test and analysis of time series. Diagrams and graphs are also provides a simplified way of resenting the data and often gives a clear and through understanding of trends and relationship. Pie-graphs, Bar-graphs and other simple graphs are also used in profitability analysis.
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