Dodia, Bhavsinh M., 2006, "A Comparative Analysis of Cost Effectiveness on Productivity" - (With Special Reference to Saurashtra University and Gujarat University), thesis PhD, Saurashtra University

http://etheses.saurashtrauniversity.edu/id/eprint/104

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“A COMPARATIVE ANALYSIS OF COST EFFECTIVENESS ON PRODUCTIVITY.” – (WITH SPECIAL REFERENCE TO SAURASHTRA UNIVERSITY AND GUJARAT UNIVERSITY)

A THESIS
SUBMITTED TO THE
SAURASHTRA UNIVERSITY
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN
COMMERCe
(UNDER THE FACULTY OF COMMERCe)
SUBMITTED BY
MR. BHAVSINH M. DODIA
LECTURER
J. K. M. COMMERCE & B.B.A. COLLEGE
JUNAGADH-362001

UNDER THE GUIDANCE OF
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DECEMBER – 2006
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CERTIFICATE  

This is to certify that the thesis on, “A Comparative Analysis of Cost Effectiveness on Productivity” (with special reference to Saurashtra University & Gujarat University) submitted by MR. BHAVSINH M. DODIA for the award of Ph.D. degree in the faculty of commerce is based on the research work carried out by him under my guidance and supervision.  

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DECLARATION

I hereby declare that the research work presented in this thesis on, “A Comparative Analysis of Cost Effectiveness on Productivity” (with special reference to Saurashtra University & Gujarat University) is prepared by me after studying various references.

I also declare that the research work is my original work and no degree of diploma has been conferred to me before either by this university or by another university.

Place: [BHAVSINH M. DODIA]
Date:
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## CHAPTERS

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PREFACE

Education is a vehicle for socio-economic development of the country. The country is facing many socio-economic problems. One major problem which is really matter of concern and worry for planner and policy makers, is poor literacy in the country. Our situation is improving than what it had before decades.

Universities throughout the world are faced with increasing financial crisis. The problem is more severe in the developing and under developing countries. The system of financial administration and method of management of finances have been found to be partly responsible for this. The finance officers working in Indian Universities need to be equipped with techniques of modern financial management in education, and they should be in developing in themselves better comprehension of the existing system of finances in Indian Universities.

In the recent years almost all the universities in the country have been facing a financial crunch. One obvious reason is that there is a general scarcity of funds as compared to demands thereon from various sectors of development. The Government of India has restricted the funding of universities at the 1991-92 level. This has further aggravated the problem.

Developing / Maintaining the infrastructure, investing money for the maintains of humanities courses, which perform the function of preservation and dissemination of higher learning (which are today much neglected due to paucity of funds), meeting the expenses incurred on administrative services in the universities and providing assistance to the meritorious student of the poorest section of the society.

By introducing courses like Master of Sciences in Information Technology the university will become a source of disseminating scientific and technological
knowledge. The courses like this intend to build up special programmers of training specialist for innovative advanced technologies and its applicability to the immediate regional, scientific, ecological and social requirements.

Most of the money they would earn by way of getting fees from the students would be spent on maintenance and the balance money would be invested for further development only. The Universities then would not be profiteering organizations in the sense business is. The profit it would earn would be used for the betterment of society in a philanthropic spirit only. Can we call the United Nations a profiteering organization? It accepts huge donations from rich countries, sells booked and journals, but all the money earned is spent on the needy and poor countries of the world. The same logic holds true for a university.

Considering the above fact and present situation researcher has made an attempt to study the “A Comparative Analysis of Cost Effectiveness on Productivity” (With special reference of Saurashtra University and Gujarat University) in this research.
ACKNOWLEDGEMENT

I express my deep sense of gratitude for the continued and sustained interest my Research Supervision Dr. Hitesh J. Shukla, Department of Business Management Saurashtra University, Rajkot without whose warmth this work would not have become possible. I have highly benefited out of her knowledge of the subject, the research methodology and the motivation of researcher, I will cherish forever the sweet memories of the privilege that I had to work under her able guidance.

I am thankful to the U.G.C. section Saurashtra University & Gujarat University chief account Officer of Gujarat State University for providing financial assistance and the research project.

I acknowledge the cooperation extended to me by Dr. Pratapsinh Chauhan, Head & Professor of Department of Business Management, Saurashtra University, Rajkot and I also acknowledge the cooperation extended to me by Dr. Mrs. D.C. Gohil H.O.D. Department of Commerce Saurashtra University and also cooperate to me Dr. Sanjay Bhayani, Reader of Department of Business Management, Rajkot

I propose a vote of thanks to the learned authors of the selected reference, whose writings provided the base for this Thesis.

As last but not least, I am thankful to my elder brother Dr. Naranbhai and my Jyotshnabhabhi, my Geetu, my nephew Param, Keyuri, Vidhi, Meet, my father and mother because all their cooperation this work could not be possible.

Date :
Place :

[BHAVSINH M. DODIA]
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CHAPTER – 1

OVERVIEW OF HIGHER EDUCATION AT UNIVERSITY LEVEL

1.1 Higher Education an Introduction.

1.2 Under Graduate Level and Post Graduate Level Education at University.

1.3 Problems of Universities as whole and problems of Saurashtra University and Gujarat University In Particular.

1.4 Prospects of Higher Education.

1.5 Role of Government in Higher Education.

1.6 Role of Higher Education in the Industrial Development / Economic Growth of the Nation.

1.7 Role of University Grants Commission in Higher Education.

1.8 Government Policies Relates to Higher Education.

1.9 Conclusions.
1.1 HIGHER EDUCATION AN INTRODUCTION:

The history of research and development are related with human evaluation. Result of formal / informal organized / unorganized permanent / temporarily research are the main factors behind the globalization of the modern Universe world. Education & Research are like two facet of the same coin. Both are complementary factors to the development. Research is mainly academic matter. It is true that professionalisation / commercialization have been given due place in it, but its various components are of educational.

There are constant changes taking place in the surrounding around human life. What can be reasons behind these change or transition intellectual people trying to get the answer of the question.

There is a unique contribution of education in the development of human culture. As regards in development of Indian culture the medicinal teaches Chanakya and Kautilya and mythological volume like vedas and Upanishad them self have become equivalent to education itself. Takshila and Nalanda university were the pride of India. Modern universities have also continued a lot in modern higher education system. Such universities leads to the new directions of the development ultimately it increase the qualities of human Research.

A. CONCEPT OF HIGHER EDUCATION:

Higher education is synonym of university. It has a place at university or at a college or an institute. It is an authority to issue a license to a person for grant of a degree or certificate after completion of a particular course. It indicates that information and knowledge gained by the individuals in a particular discipline or gained by the individuals in a particular discipline or disciplines entitle them for degrees, diplomas or certificates in the respective subjects. But it is more than this. And its place may not only be restricted more than this. And its place may not only be restricted within four walls or in ivory-towers. It may be in garden (for Newton), in bathroom (for Archimedes), in kitchen (for James Watt), or in prison.
(for Nehru), and also in forest (in ancient times in India for saints, sages and their disciples), and also in the homes of creative thinkers (like Saint Tulsidas, Surdas, Tukaram, Gyaneshwar and other enlightened persons), and scientists during the period of Newton. Bertrand Russell (1950) has enlightened us saying that most of the intellectual work was done by independent men of learning. In England, especially, until near the end of the nineteenth century, hardly any men of first-rate eminence expect Newton were connected with universities. Certainly their creations are part and parcel of modern university and colleges courses.)

To get a degree in any discipline of higher education is not the end of it. It must last even after completion of higher education till the end of life. It must be life-long making all people life-long learners by giving birth to a learning society for better governance (service) and peace. Thus higher education is not the end in itself for an individual who takes and completes the course. But it demands perpetual extension and sharing of knowledge with wisdom to be ever conscientize towards life situations to sustain peace with himself and in the society. The extension and sharing of knowledge are the bases of peace. In Chinese Classic: The Great Learning, it is noted that:

“The extension of knowledge consists in the investigation of things. When things are investigated, knowledge is extended; when mind is elevated, the personal life is depended; when personal life is depended, the family is regulated; when family is regulated the State will be in order; when the State is in order, there will be peace on earth”.

**B. WHO SHOULD PAY FOR HIGHER EDUCATION, AND WHY ?**

Education of people is very expensive. All have no resources to meet the expenses of education. But for better governance (service), education for all is essential necessity. It is the responsibility of the State to educated all. After all, government is of the people, it is not other race or alien. Hence it should not be far from the people and off the people after being elected by them and forming
the government on behalf of them. It is the people’s government thinks for betterment of all to keep the promises laid down in the Preamble of the Constitution of India that is to secure to all its citizens justices (which is mother of all peace), liberty, equality and fraternity. Article 41 of the Constitution of India (1993) giver all citizens right to work, to education and to public assistance in certain cases. It states that the State shall, within its limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old ages, sickness and disablement, and in other cases of undeserved want. Article 41 of the Constitution of India (1993) giver all citizens right to work, to education and to public assistance in certain cases. It states that the State shall, within its limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old ages, sickness and disablement, and in other cases of undeserved want. Article 41 of the Constitution of India (1993) giver all citizens right to work, to education and to public assistance in certain cases. It states that the State shall, within its limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old ages, sickness and disablement, and in other cases of undeserved want. Article 41 of the Constitution of India (1993) giver all citizens right to work, to education and to public assistance in certain cases. It states that the State shall, within its limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old ages, sickness and disablement, and in other cases of undeserved want. Article 41 of the Constitution of India (1993) giver all citizens right to work, to education and to public assistance in certain cases. It states that the State shall, within its limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old ages, sickness and disablement, and in other cases of undeserved want. Article 41 of the Constitution of India (1993) giver all citizens right to work, to education and to public assistance in certain cases. It states that the State shall, within its limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old ages, sickness and disablement, and in other cases of undeserved want. Article 41 of the Constitution of India (1993) giver all citizens right to work, to education and to public assistance in certain cases. It states that the State shall, within its limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old ages, sickness and disablement, and in other cases of undeserved want. Article 41 of the Constitution of India (1993) giver all citizens right to work, to education and to public assistance in certain cases. It states that the State shall, within its limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old ages, sickness and disablement, and in other cases of undeserved want. Article 41 of the Constitution of India (1993) giver all citizens right to work, to education and to public assistance in certain cases. It states that the State shall, within its limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old ages, sickness and disablement, and in other cases of undeserved want. Article 41 of the Constitution of India (1993) giver all citizens right to work, to education and to public assistance in certain cases. It states that the State shall, within its limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old ages, sickness and disablement, and in other cases of undeserved want.
C. IMPORTANCE OF HIGHER EDUCATION:

Education plays a vital role in the building of society. Modern societies cannot achieve their aims of economic growth and higher cultural standards without making the most of the talents of their citizens. Higher education is undoubtedly the principal means of developing talents in the individual. In a developing economy like India, the role of education is of signal importance in the building of the nation. If democratic government and democratic way of life are to function properly and succeed, education must be spread among all citizens. Proper development and maintainers of higher level administration, leadership and scientific and technological growth require men with good education. In fact, in the resolution (July 14, 1964) which has led to the appointment of the education commission under Dr. D.S. Kothari, chairman, University Grants commission, it is stated that the government of India, ever since the attainment of independence, have given considerable attention to the development of a national system of education rooted in the basic values and the cherished traditions of the Indian nation and suited to the needs and aspirations of a modern society. The government of India are convinced that education is the key to national prosperity and welfare, and that no investment is likely to yield greater returns that the investment in human resources of which the most important component is education. In fact, in the famous report of Lord Robbins on “Higher Education” in Great Britain (Report, 1963) it is clearly stated that higher education is one of the most important forms of national investment. It is asserted that “judged solely by the test of future productivity, the community that neglects education is as imprudent as a community that neglects material accumulation.” It is the consideration of this fact that has led to the invention of the very apt phrase “human capital”. education holds the key to the formation of “human capital.”
D. THE NEED FOR HIGHER EDUCATION:

There is a general appreciation of the fact that higher education provides the competencies that are required in different spheres of human activity, ranging from administration to agriculture, business, industry, health and communication, and extending to the arts and culture. The World Bank document higher Education. The Lessons of Experience (World Bank, 1994) allocates a low priority to higher education in its scheme of funding, yet admits: Higher education is of paramount importance for economic and social development. Institutions for higher education have the main responsibility for equipping individuals with the chanced knowledge and skills required for positions of responsibility in government, business and the professions.” It adds, “Higher education investments are important for economic growth. They increase (the) individual al’s productivity and incomes, as indicated by rate of return analysis and they also produce significant external benefits not captured by such analysis. UNESCO (1995) in its policy paper on change and Development of Higher Education emphasizes that “State and society must perceive higher education, not as a burden on federal budgets but as a long term domestic investment, in order to increase economic competitiveness, the foreword to the report of the World conference on Higher Education, held in Paris in 1998, maintains, “It is no longer necessary to demonstrate the importance of education for sustainable, endogenous development, for democracy and peace, for strengthening of the defense of peace as a human value, and for respect and protection of all human rights and fundamental freedoms. The far reaching changes now taking place in the world, and the entry of human values into a society based on knowledge and information revel how overwhelmingly important education and higher education are” (UNESCO, 1998)

E. INDIAN HIGHER EDUCATION- AN OVERVIEW

The education system in India is one of the largest ones in the world, with a network of more than 925 thousand institutions with 190 million students enrolled
at various levels (1996-97). During 50 years of independence period, the education system got deepened and widened as well. In India, higher education is offered in a variety of institutions as stated in below table:

**TABLE 1.1: TYPES AND NUMBER OF HIGHER EDUCATION INSTITUTES IN INDIA (2003-04)**

<table>
<thead>
<tr>
<th>Types of Institutions</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universities</td>
<td>487</td>
</tr>
<tr>
<td>Institutions of National Importance</td>
<td>43</td>
</tr>
<tr>
<td>Institutions Deemed to be Universities</td>
<td>86</td>
</tr>
<tr>
<td>Research Institutions</td>
<td>91</td>
</tr>
<tr>
<td>Colleges for General Education</td>
<td>9880</td>
</tr>
<tr>
<td>Colleges for Professional Education</td>
<td>2250</td>
</tr>
</tbody>
</table>

(Source: Selected education statistics; 2004, New Delhi: Ministry of Human Resource Development)

The total number of universities includes six open universities – one central university and five state universities- all run by Government. They also include four universities exclusively meant for women, while all other institutions are open to both males and females. Similarly there are nearly thousand colleges in the country, which give admission exclusively to woman students. In addition to providing most of the courses available in other institutions, these colleges and universities run a few additional courses, which are of special interest to women.

Apart from degree awarding university level institutions, there are 8500 colleges that provide mostly bachelor’s and sometimes master’s level education. A majority of colleges are Arts, Science and commerce colleges offering education in humanities, natural science, arts, and commerce. There are about 400 engineering and technical colleges, 655 medical colleges, and nearly 700 teacher education/training colleges. While many universities in India providing
general as well as professional education, there are some universities which exclusively provide professional education and some exclusively general.

Most of the higher education institutions in India are public institutions. There are no private universities so far, though efforts were initiated a few years ago to allow opening of private universities. There are, however, private colleges in big number. Majority of private colleges are financially supported by the state. Self-financed private colleges are receiving no state support are small in number and their rapid increase/growth is a recent phenomenon.

Higher education in India is coordinated by several agencies. While most of general education falls within the jurisdiction of the U.G. C., professional institutions are coordinated by different bodies. The All India Council for Technical Education (AICTE) is responsible for coordination of technical and management institutions. The other statutory bodies are Medical Council of India (MCI), Central Council of Indian Medicine, the Homeopathy Central Council, Indian Nursing Council, the Indian Council of Medical Research (ICMR), the Pharmacy Council, the Bar Council of India, the Indian Council of Agricultural Research etc, There are also a few such bodies at state level such as State Council of Higher Education which has been established recently. There yet another type of a coordinating agency, called Association of Indian Universities, which was earlier known as Inter-University Board. All universities and other institutions are member of AIU (Association of Indian Universities). The AIU has no executive power, but play an important role as an agency of dissemination of information and as an advisory both to the Government and/or UGC and Universities.¹

F. GROWTH OF HIGHER EDUCATION IN INDIA:

In 1857 first three Indian Universities were established at Bombay, Calcutta, and Madras respectively. During the post independence period, which may be described as an “era of higher education in the history of Indian

Education”, there has been an enormous growth in higher education in pursuance of recommendations of University Education Commission (1948) and Education Commission (1964-666). The rate of growth was as high as 13.14% during 1950s and 1960s, and then declined to 4-5% during 1970s and 3-4% during 1980s. During 1990s, the growth rate has stabilized around 4-5%\(^2\). Higher Education has expanded fast, and higher education has remained mostly public in nature. Today India rank fairly high in term of size of the network of higher education institutions, with around more than 6.4 million students enrolled every year (1996), and teaching force number 240 thousand. The total enrollment, however, forms only about six percent of the relevant age group (17-23) population. The corresponding ratio, in the developed countries is on an average above 40 per cent and in developing countries 7 per cent. Secondly, a large proportion of enrollment in higher education (88.2) is at undergraduate level. Students in post-graduate and research studies constitute 9.4% and 1.1% respectively. While 1.3% students are enrolled in Diploma and Certificate Courses. Thirdly, about 40% of students are enrolled in Arts Courses, another one fifth (20%) each in Commerce and Science (natural and physical sciences). Other disciplines account for small proportions. Though enrollment ratio is not high, in term of numbers, the output is very large. In scientific and technical manpower, India could become the third largest reservoir in the World. Table on the next page shows phenomenon expansion of the education system:

The demand for higher education generally comes from upper and middle-income groups. The study conducted by N.C.E.R.T. (1971) shows that 80% of university and high school students were from the top 20% of the income groups. Similar study conducted by U.G.C. during 1970’s concluded that 70% of the university students came from top 20% income groups. Paradoxically, 70% of the Government revenue came from indirect taxes, which was paid by all citizens, of which 60% were living in poverty.

Such a remarkable expansion is possible due to public financing of higher education. In relative term, the share of Government in financing higher education has increased to about 80 per cent of total expenditure on higher education and shares of all other sources declined, as shown in Table number 2 on the next page.

**TABLE 1.2: GROWTH IN HIGHER EDUCATION IN INDIA.**

<table>
<thead>
<tr>
<th>INSTITUTIONS</th>
<th>1857</th>
<th>1947*</th>
<th>50-52</th>
<th>90-91</th>
<th>95-96</th>
<th>99-00</th>
<th>00-01</th>
<th>01-02</th>
<th>02-03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universities</td>
<td>3</td>
<td>20</td>
<td>30</td>
<td>177</td>
<td>207</td>
<td>240</td>
<td>310</td>
<td>327</td>
<td>348</td>
</tr>
<tr>
<td>Colleges</td>
<td>-</td>
<td>500</td>
<td>750</td>
<td>7346</td>
<td>9278</td>
<td>9700</td>
<td>9980</td>
<td>10069</td>
<td>10400</td>
</tr>
<tr>
<td>Enrollment ('000)</td>
<td>-</td>
<td>20</td>
<td>263</td>
<td>4925</td>
<td>6425</td>
<td>7000</td>
<td>8125</td>
<td>8780</td>
<td>11000</td>
</tr>
<tr>
<td>Teachers ('000)</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>272.7</td>
<td>310.6</td>
<td>350</td>
<td>374</td>
<td>412</td>
<td>581</td>
</tr>
</tbody>
</table>

(Source: UGC Annual Report (New Delhi); Selected statistics (New Delhi, Ministry of HRD)

Table 1.2 indicates that growths in higher education in India only in 1857 and now they are 348 in India in 2002-03, colleges also are established in bulk. There were 500 colleges in 1947 and they are 10400 in 2002-03. There is a great demand for teachers due to growth of colleges and universities, there were 24 in 1950-52 and they were 581 in 2002-03 in higher education in India.

⊗ Includes deemed universities but excludes other institutions.
### TABLE NO. 1.3:

**WOMEN’S ENROLMENT IN HIGHER EDUCATION- SOME SELECTED YEARS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total enrolment</th>
<th>No. Of women's college</th>
<th>Enrolment of women (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>2752437</td>
<td>609</td>
<td>27.2</td>
</tr>
<tr>
<td>1983</td>
<td>3133093</td>
<td>647</td>
<td>28.1</td>
</tr>
<tr>
<td>1985</td>
<td>3404096</td>
<td>712</td>
<td>29.1</td>
</tr>
<tr>
<td>1987</td>
<td>3754409</td>
<td>780</td>
<td>30.3</td>
</tr>
<tr>
<td>1989</td>
<td>4074676</td>
<td>824</td>
<td>31.7</td>
</tr>
<tr>
<td>1990</td>
<td>4246878</td>
<td>851</td>
<td>32.2</td>
</tr>
<tr>
<td>1995</td>
<td>4474780</td>
<td>864</td>
<td>34.2</td>
</tr>
<tr>
<td>2000</td>
<td>5280192</td>
<td>1070</td>
<td>37.8</td>
</tr>
<tr>
<td>2004</td>
<td>6323062</td>
<td>1862</td>
<td>40.1</td>
</tr>
</tbody>
</table>


Table No. 1.3 indicates that in 1981 there were 2752437 total enrolment in 609 colleges of woman and. It was 27.2% and in 2004 the total number if enrolment was 6323062 and number of women college was 1862 and it was 40.1%. it shows that the enrolment of women increases very rapidly between 1981 and 2004.

Expenditure on higher education as a proportion of GNP, after inception of strategic planned development, has marginally increased from 1.2% in 1950-51
to about 4% at present. However, we are far behind the target of spending 6% of GNP on education as recommended by the Education commission (1964-66).

Table 1.4: SOURCES OF FUNDS FOR HIGHER EDUCATION IN INDIA (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>Government</th>
<th>Fees</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-51</td>
<td>49.4</td>
<td>36.8</td>
<td>13.8</td>
<td>100.00</td>
</tr>
<tr>
<td>1960-61</td>
<td>53.5</td>
<td>34.8</td>
<td>11.7</td>
<td>100.00</td>
</tr>
<tr>
<td>1970-71</td>
<td>61.0</td>
<td>25.5</td>
<td>13.5</td>
<td>100.00</td>
</tr>
<tr>
<td>1980-81</td>
<td>72.8</td>
<td>17.4</td>
<td>10.8</td>
<td>100.00</td>
</tr>
<tr>
<td>1986-87</td>
<td>75.9</td>
<td>12.6</td>
<td>11.5</td>
<td>100.00</td>
</tr>
<tr>
<td>1992-93</td>
<td>77.8</td>
<td>14.5</td>
<td>12.6</td>
<td>100.00</td>
</tr>
<tr>
<td>1998-99</td>
<td>76.2</td>
<td>14.2</td>
<td>11.7</td>
<td>100.00</td>
</tr>
<tr>
<td>2003-04</td>
<td>72.9</td>
<td>13.1</td>
<td>12.3</td>
<td>100.00</td>
</tr>
</tbody>
</table>


Table 1.4: Table 1.4 indicates that in 1950-51 the funds for higher education in India are got from the following sources viz, government paid 49.4%, students paid 36.8% and other sources paid 13.8% and in 2003-04 government paid 72.9%, student paid 13.1% and other 12.3%. They were fluctuating between 1950-51 and 2003-04.

Higher Education has considerable share in total expenditure on Education. Table number 4 shows share of higher education at both center level and state level.
### TABLE 1.5 : SHARE OF HIGHER EDUCATION IN TOTAL EXPENDITURE ON EDUCATION IN INDIA (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>Centre</th>
<th>State</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989-90</td>
<td>32.16</td>
<td>12.74</td>
<td>14.69</td>
</tr>
<tr>
<td>1990-91</td>
<td>28.94</td>
<td>11.81</td>
<td>13.44</td>
</tr>
<tr>
<td>1991-92</td>
<td>28.92</td>
<td>11.43</td>
<td>13.03</td>
</tr>
<tr>
<td>1992-93</td>
<td>28.09</td>
<td>11.45</td>
<td>10.80</td>
</tr>
<tr>
<td>1993-94</td>
<td>24.53</td>
<td>12.15</td>
<td>13.26</td>
</tr>
<tr>
<td>1994-95</td>
<td>25.62</td>
<td>11.60</td>
<td>12.86</td>
</tr>
<tr>
<td>1995-96</td>
<td>22.52</td>
<td>11.03</td>
<td>12.00</td>
</tr>
</tbody>
</table>

(Source: Ministry of Human Resource Development, New Delhi)

Table 1.5: It indicated that the share of higher education in total expenditure in India can be divided as following.

It was 32.16 by centre, 12.74 by state and total was 14.69 in 89-90. It was 22.52 by centre 11.03 by state and total was 12% in 1995-96. It shows decrements between 1989-90 and 1995-96.
TABLE 1.6: SHARE OF HIGHER EDUCATION IN TOTAL EDUCATION EXPENDITURE IN FIVE-YEAR PLANS IN INDIA.

<table>
<thead>
<tr>
<th>Plan Period</th>
<th>Per cent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4(^{th}) Five-Year Plan (1970-75)</td>
<td>25</td>
</tr>
<tr>
<td>6(^{th}) Five-Year Plan (1980-85)</td>
<td>18</td>
</tr>
<tr>
<td>7(^{th}) Five-Year Plan (1985-90)</td>
<td>14</td>
</tr>
<tr>
<td>Annual Plan (1990-92)</td>
<td>11</td>
</tr>
<tr>
<td>Eight Five Year Plan (1992-97)</td>
<td>7</td>
</tr>
</tbody>
</table>

Sources: ugc.co.in

Table 1.6 It indicates that share of higher education in total education in five year plan in India is as following. It was 25% in 4\(^{th}\) five years plan (1970-75). It was 18% in 6\(^{th}\) five year plan (1980-85), it 14% in 7\(^{th}\) five year plan (1985-90). It was 11% in annual plan (1990-92) and it was 7% in eight five year plan (1992-1997). It shows a great decrease during those five plan periods.
<table>
<thead>
<tr>
<th>YEAR</th>
<th>GRANT RECEIVED</th>
<th>EXPENDITURE INCURRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992-93</td>
<td>467.23</td>
<td>469.15</td>
</tr>
<tr>
<td>1993-94</td>
<td>496.45</td>
<td>195.62</td>
</tr>
<tr>
<td>1994-95</td>
<td>602.49</td>
<td>571.87</td>
</tr>
<tr>
<td>1995-96</td>
<td>683.59</td>
<td>688.37</td>
</tr>
<tr>
<td>1996-97</td>
<td>687.65</td>
<td>723.93</td>
</tr>
<tr>
<td>1997-98</td>
<td>928.17</td>
<td>936.35</td>
</tr>
<tr>
<td>1998-99</td>
<td>1388.67</td>
<td>1403.79</td>
</tr>
<tr>
<td>1999-00</td>
<td>1414.77</td>
<td>1420.29</td>
</tr>
<tr>
<td>2000-01</td>
<td>1463</td>
<td>1479.85</td>
</tr>
<tr>
<td>2001-02</td>
<td>1498.56</td>
<td>1491.41</td>
</tr>
<tr>
<td>2002-03</td>
<td>1459.47</td>
<td>1685.77</td>
</tr>
<tr>
<td>2003-04</td>
<td>1649.05</td>
<td>1747.98</td>
</tr>
</tbody>
</table>

Source: University Grants Commission

Table 1.7: It indicates that UGC received the grant if 467.23 and its expenditure was 469.15 during 1992-93. UGC received the grant of 1649.05 and its expenditure was 1747.98 during 2003-04. It shows a great increment between 1992-93 and 2003-04.
TABLE 1.8 : STUDENTS SEEKING HIGHER EDUCATION ABROAD

<table>
<thead>
<tr>
<th>YEAR</th>
<th>NUMBER OF STUDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>34796</td>
</tr>
<tr>
<td>1994-95</td>
<td>33537</td>
</tr>
<tr>
<td>1995-96</td>
<td>31743</td>
</tr>
<tr>
<td>1996-97</td>
<td>30641</td>
</tr>
<tr>
<td>1997-98</td>
<td>33818</td>
</tr>
<tr>
<td>1998-99</td>
<td>37482</td>
</tr>
<tr>
<td>1999-00</td>
<td>42337</td>
</tr>
<tr>
<td>2000-01</td>
<td>54664</td>
</tr>
<tr>
<td>2001-02</td>
<td>66836</td>
</tr>
<tr>
<td>2002-03</td>
<td>74603</td>
</tr>
<tr>
<td>2003-04</td>
<td>79736</td>
</tr>
</tbody>
</table>

Sources : ugc.co.in

Table 1.8 : It indicates that in 1993-94 the number of students who got higher education was 34796 and it was 79736 in 2003-04 and it shows a great incresement between 1993-94 and 2003-04.
TABLE 1.9: GROWTH OF RECOGNIZED EDUCATIONAL INSTITUTIONS FROM 1950-51 TO 2001-2002

<table>
<thead>
<tr>
<th>YEARS</th>
<th>PRIMARY</th>
<th>UPPER PRIMARY</th>
<th>HIGH/HR. SEC/INTER</th>
<th>INTER/PRE. JR. COLLEGES</th>
<th>COLLEGES</th>
<th>COLLEGES FOR PROFESSIONAL EDUCATION (ENGG., TECH., ARCH., MEDICAL &amp; EDUCATION COLLEGES)</th>
<th>UNIVERSITIES/DEEMED UNIV./INSTT. OF NATIONAL IMPORTANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-51</td>
<td>20967</td>
<td>13596</td>
<td>7416</td>
<td>370</td>
<td>208</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>2001-02</td>
<td>664041</td>
<td>219626</td>
<td>133492</td>
<td>8737</td>
<td>2409</td>
<td>272</td>
<td></td>
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<tr>
<td>Growth</td>
<td>316.7</td>
<td>1615.4</td>
<td>1800.1</td>
<td>2361.4</td>
<td>1158.2</td>
<td>1007</td>
<td></td>
</tr>
</tbody>
</table>

(Source: www.education.nic.in)

Table 1.9: It indicates that the growth of recognized educational institutions from 1950-51 to 2001-2002 following:
The growth of primary was 316.7, of Upper Higher Primary was 1615.4, of higher secondary, junior colleges was 1800.1, of colleges 2361.4, of
professional colleges was 1158.2 and universities was 1007 between 1950-51 and 2001-02.

There has been a rapid expansion in higher education, with student enrolment growing at about 5 per cent annually over the past two decades. This growth is about two-and-half times the population growth rate. Today’s gross enrolment ratio of Indians in institutions of higher education is approximately 7 higher than developing country averages, but lower than the average for Asia as a whole (11 per cent) and much lower than OECD countries (Kapu & Mehta 2004). Table 1 shows the extent of higher education in India.

Table : 1.10 Grants for higher education

<table>
<thead>
<tr>
<th>YEAR</th>
<th>GENERAL DEVELOPMENT</th>
<th>FINANCING ACCESS</th>
<th>PROMOTION OF RELEVANT EDUCATION</th>
<th>QUALITY &amp; EXCELLENCE</th>
<th>STRENGTHENING RESEARCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997-98</td>
<td>224.04</td>
<td>12.04</td>
<td>38.53</td>
<td>17.27</td>
<td>29.28</td>
</tr>
<tr>
<td>1998-99</td>
<td>207.03</td>
<td>18.97</td>
<td>44.62</td>
<td>45.31</td>
<td>27.61</td>
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<td>1999-00</td>
<td>256.03</td>
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<td>38.24</td>
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<tr>
<td>2000-01</td>
<td>267.16</td>
<td>15.29</td>
<td>33.88</td>
<td>68.92</td>
<td>27.76</td>
</tr>
<tr>
<td>2001-02</td>
<td>180.04</td>
<td>18.15</td>
<td>70.05</td>
<td>120.82</td>
<td>33.76</td>
</tr>
<tr>
<td>2002-03</td>
<td>327.58</td>
<td>07.01</td>
<td>52.65</td>
<td>78.66</td>
<td>93.65</td>
</tr>
<tr>
<td>2003-04</td>
<td>362.47</td>
<td>12.62</td>
<td>56.62</td>
<td>82.86</td>
<td>99.51</td>
</tr>
</tbody>
</table>


Table: 1.10 It indicates that the grant of higher education in general development was 224.04, finding access was 12.04, of promotion of relevant education was 38.53, of quality & excellence was 17.27 and of strengthen research was 29.28 during 1997-98. Development was 362.47, finding access was 12.62, of promotion of relevant education was 56.62, of quality & excellence was 82.86 and of strengthen research was 99.51 during 1997-98.

It shows a great increasement in grants between 1997-98 and 2003-04.
1.2 UNDER GRADUATE LEVEL AND POST GRADUATE LEVEL EDUCATION AT UNIVERSITY

After the National Policy of higher Education (1986) was formulated, quite a few important reforms were introduced in higher education in India that have significant influence on quality, quantity, and equality in higher education. Accordingly a number of academic staff colleges were established for providing training to teachers on a regular basis. In addition, a few university departments also organize refresher courses for college teachers. Now, in order to encourage institutional innovation and experimentation, emphasis has been placed on autonomy aspect. And, a good number of colleges are given autonomy under the program of establishment of autonomous colleges. Also, with a view to improve access to higher education in rural areas and, also at the same time to improve relevance of higher education, emphasis has been laid on opening-up rural institutes of higher education and opening learning system on one hand, and introducing vocational courses at college level. Lastly, realizing the importance of technology in higher education, information technology has been given high attention and universities and colleges are provided on large-scale computers and, other facilities for modernization and automation.

A. REFORMS RELATING TO FINANCING OF HIGHER EDUCATION BRIEFLY INCLUDE FOLLOWINGS:

- The share of higher education in total expenditure on education of the Union Government has declined from 32 per cent to 22.2 per cent during 1989-90 to 1995-96 and corresponding figures relating to the State budget declined from 12.7 per cent in the Eight Five-Year Plan (1992-97). It is the indication that Government at both levels, the State and the Centre, has started withdrawing or reducing their financial support in higher education. This shows trend toward privatization along with autonomy. Even the Government has liberalized its rules for permitting self-financed colleges/institutes.
The relative priority given to higher education in allocation of resources in Five Year Plans has declined very significantly from 25 per cent in the fourth Five Year Plan to seven per cent in the eighth Five Year Plan (1992-93).

In real terms, the annual ‘plan’ (development) expenditure on higher education has declined by about 15 per cent in between 1989-90 and 1994-95. Even the ‘non-plan’ (maintenance) expenditure has declined by twelve per cent during this period, causing serious problems in maintaining even status quo at the universities.

Decline in absolute level of expenditure are very steep in case of expenditure on research, both in case of general and technical education, the latter suffered more.

Central Government’s expenditure on scholarship in 1994-95 declined to one-third of the level in 1998-90 even at current prices (and a real price, the decline is by four-fifth).

This information is sufficient to conclude that public resources have not flown into higher education sufficiently to maintain the huge system at pre-reform period level in terms of quantity, quality and equity in higher education. In fact, higher education has been subject to severe neglect in term of not only resource allocation, but also in term of coherent policy and information. Two committees have been appointed on mobilization of additional resources for higher education: one for technical education institutions and another for central universities. These two committees have emphasized the need for making special efforts by Higher Education Institutions to raise their own resources. Some important measures to mobilize additional resources are:

1. Institutions should raise the fee level in such a way that at least 20 per cent of annual recurring cost per student is recovered from the students in form of fees. (Present level is 15 per cent)
2. Faculties of these institutions are encouraged to participate in consultancy activities.

3. Institutions should also raise resources from other internal and external resources, such as sales of output, voluntary donation form industry and community at large and by diversifying their areas of activities, etc.

4. Loan programmes may have to be revitalized as an important resource of revenues for higher education in long run.

Based on these guidelines universities and other institutions of higher education have been required to reform their fees structure in term of steep increase in tuitions fees, examination fees, admission fees, registration fees, etc.

Banking sector has been persuaded to launch commercially viable educational loan to students going for higher education, particularly higher professional/ technical education.

Government has also offered generous tax concession to contributions to higher education institutions and incentives are offered to institutions in the utilization of these funds.

Along with general increase in fees, universities also started responding to market demand to make quick financial gain including offering ‘marketable’ self-financed courses, such as Hotel Management, Computer, Fashion technology, etc. for which full or more than full cost fees are charge from the student.

In the same context, it is also important to note the shift in emphasis in the universities from higher education to training e.g. Computer Courses.

Further, distance or open education or correspondence courses are also viewed by the universities favorably more as revenue generating courses than academically important avenues of imparting learning. Several studies have concluded that many distance education centers in universities have generated huge surplus for universities.
20In summary, the emerging trend in terms of reforms in higher education in India, which are somewhat similar to those in many developing countries that are in transmission period. These trends are not exhaustive; they are only indicative. The features listed under the two categories viz., conventional system and emerging system include some of these changes that taken place and are slowly taking place in some parts of the country.

Above-mentioned some reforms necessary to improve the efficiency of Higher Education seem to go against some well-charitable functions of higher education. There is need to balance the main functions, and resource needs of the system.

B. BRIEF HISTORY OF UNIVERSITY EDUCATION IN INDIA

➢ Origin and Development:

Education that began from the early vedic period (around 3000-2500 BC) is concerned itself only with the preservation of contemporary sacred texts through oral transmission. Educational institutions consisted of small domestic schools organized around rishis (sages) who admitted resident pupils. It was by the example of the teacher who was in constant association with the students that their personality and character was moulded. The pupils, after memorising the texts contemplated on them and participated in discussion and discourse in learned assemblies which served functions parallel to those of institutions of higher learning. During the later vedic period (around 1200-600 BC) higher education became subservient to the requirements of priest hood and ritualistic religion. The perishad (dept circles) and conferences because better organized wherein representative thinkers of various schools where invited for discourage. Education came to be monopolized by upper caste, especially the Brahmins.

Buddhist education was initiated in the late fifth century BC. It was at its Zenith during the reign of Ashoka the great in the third century BC and continued upto the early middle ages.
It centers around monasteries a number of teacher and students being congeugated at one place. These were the first institutions, anywhere in the world, which could be compared to modern universities. The curriculum at such centers gradually (by the early Christian era) came to cover varied subjects like the Vedas and vedanges, astronomy, philosophical systems (of Sankkhya, yoga, nayaya and vaishesokia) music medicine, art of war and poetry, as well as crafts and arithmetic. The method of teaching was by and large, oral, though writing was known. Debate & discussion were very much emphasized as modes of teaching. The students were charged a fixed fee (which went to the vihara monastery). The monks (who were the teachers) were graded according to capability, Taxila, which developed around the first century BC was the most famous Buddhist seat of learning, attracting students not only from all over India, but the whole of the civilized world. Principal subjects of specialization were Vadas, grammar, Phil and eighteen crafts including medicine, surgery, military arts, astronomy, astrology, divination, accounting, accountancy, fine & performing arts. There were no costs restrictions. The other contemporary ancient universities of India were those of Nalanda Vikram Shila and Vallabhi. At Nalanda (development in the fifth century A.D.) There were 1500 teachers and 8500 students. Teaching was controlled by a board of eminent teaching was controlled by a board of eminent teachers. The Buddhist system of education prospered and existed side by side with the brahminical one. In South India, formal education was essentially religious in character, imparted at various Brahminical (Maths), Buddhist (Vihars) and Jain (Pallis) centers, which flourished in the early Christian era.

During the 12th to 18th centuries, while the early India Universities (Education) System continued, there were imp. Brahminical Centers in South India too. With the Brahminal revival in the early middlke ages, the Buddhist institutions like those of Texila and Nalanda faced a decline. Banaras, Ujjain, Mithila, Nadia, Tineavorriur (in the south) and Thatta and Sirhind (in the south)
were some such important centers. They developed around individual teachers and renewed scholars, quite unlike and the universities of Texila and Nalenda. The srut-emphasised were veda. Sanskrit Literature and Grammar, Philosophy, medicine, astronomy and geography were also thought. Some of them specialized in logic, language “nava naya & smritis.” However the study of natural and physical science was unknown at these institutions. There was no regular system of examination and the teacher was the sole judge of the proficiency of a student. Some these centers also awarded certificates and degrees. Discussions and disputations around controversial issues continued to be integral to the education system of today.

Universities on the western model are of relatively recent origin in India as compared their counterparts in the west. The first three university were established in 1857 at Bombay, Madras & Calcutta. The panjab University at Lahore was estd. In 1882 and Uni. of Allahabad in 1887, Indian higher education as it developed in the 14th century, was obviously influenced by Birth Models. The educational policies were designed to serve British interest in Maculay’s words, to create a clam who would be interpreters between and the millions whom we govern, a class of persons Indian in blood and colour but English in tastes, in opinion, in morals and intellect who would be consumers of British goods, provide recruits for the subordinate ranks of the East Indian Com. Civil Service and the be loyal to the Raj.

The first five universities were developed on the modal of London University (itself estd. in 1836) being purely examining and affiliating bodies. The actual teaching was done in the college but the syllabi were laid down by the University. The medium of instruction was English. It was felt that this administrative structure would suit admirably as it would enable a University to unit in one system the colleges scattered in different part of a presidency it was not likely to cost much and would self supporting and would also by pass the problems of religious education by having non residential universities.
Despite its alien character, there was an eager response to the new system especially in the metropolitan central at Calcutta, Bombay and Madras. Between 1855 and 1922 the no. of general college increased from 21 to 172 and no. of student there in from 4500 to approximately 59,000.

By 1947 there were 19 universities, 491 colleges & 2,29,000 students. Most of there colleges were privately managed. The no. of arts colleges far surpassed the professional college, and of the professional colleges, and of the professional colleges, law colleges were the most popular. Education in English, agriculture and medicine was neglected. In 1947-48 there were only 24 colleges for medicine and 17 for engineering and technology. Lottee emphasis was placed on higher training and research.

The Indian component in the University curriculum increased after 1982 but between learning continued to be emphasized. It might sound surprising that of the legacies of this system continues of this day.

This system, despite its rows-backs and deficiencies seemed to satisfy most educated Indians who wanted more colleges and lower fees to that a large no. of people could avail themselves of it. So strongly nationalistic Indians, however felt that the education being imparted did not lead to them growth of patriotic sentiments and pride. Consequently, the Deccand Education Society was found in Poona in 1980, and a series of national University were founded by Mahatma Gandhi during Kashi, Bihar and Tilak Vidhyapithis, where in the emphasis was on character formation and building up the national movement.

Tagore started Visha Bharti at Shanti Niketan in 1921 which became University Centers in 1951. Educational Institutions were also started by socio-religious reforms movements of the late 19th Century eg. the Anglo Oriental College at Aligarh in 1875 (which became Aligarh Muslim University in (1921)) Dayanand Anglo Vedic College at Lahor in 1886 and subsequently at other place, the Khalsa colleges at estd. After 1873 (following the singh abha
movement of the Sikhs in the Punjab). To cater to the need for higher education
the Tatas Found the institute of science at Bangalore in 1991 (which became a
deeded (Uni. In 1958) and a college of engineering & technology was
established in Bengal in 1907.

A women’s institution was started by D. V. Karne in 1981 in Poona which
became the S.N.D.T. Women’s Uni In 1951.

The U.G.C. Setup is 1956 through an act of parliament, the reports of
various education commissions, and policy documents of 1948-49, 1964-66,
government hence provided the general direction of public policy in the vital
sphere of national life.

C. TYPES OF UNIVERSITIES IN INDIA:

Universities can be classified in various ways. The first classification could
be that of affiliating any unitary universities. Affiliating universities, of which there
are about 45, each have a large number of colleges attached to them. Some
university departments have been estd. By each affiliating university which impart
instruction at the post graduate level and undertake research and some have
highly developed post graduate deptt. In particularly all discipline. The underlying
idea in getting these post graduate deptt. Started in affiliating universities was
that they would provide academic leadership for colleges affiliated by a university
and for teacher working therein. This experiment, however, has not been very
successful. The unitary universities have no colleges attached to them expect
colleges in the university town, in the case of some of them, Allahabad, Lucknow,
Patna, Baroda, Annamali, Jodhopur, banaras University are notable illustrations.

Another method of classification could be based on discipline
specialization eg. agriculture university, 29 in number the first having been stated
at Patnagar in 1960. Initially, it was envisaged that each state would have one
Agriculture University. Exception share, however been made over time. Each
state images its own Agriculture University a substantial part of the funding, however, comes through ICAR.

There are four type of colleges, government colleges, privately managed colleges, university colleges and professional colleges.

The govt. colleges are few, only 15 to 20% about of the total colleges. They are found in the areas which were under the former princely state (Mysore) where private initiatives were either weak or absent. The university to which colleges are affiliated conducts their examinations, lays down the courses of studies and awards the degrees.

The large no. of colleges 70% about of the total college fall in the privately managed sector. This sector became much more vigorous after 1947.

In 1992-93 the distribution of college faculties was arts, science and commerce, 5345, professional, 938 (engg./technology 229, medicin includes Ayurvedic, Homoeopathic and Nurshion 517, Agriculture 79, Veterinary Science 43, Law 279, education and physical education 617, oriental learning, 734 music/fine art 80. 217 new college were added during 1993-94 155 arts, science and commerce colleges. Total 82109 of these, 1070 area exclusively women’s college. UGC Schemes has recently been reviewed and it has decided to continue it during the 8th FIVE YEAR PLAN.

Out of 221 universities, only 12 are central universities, all of which are funded for development and most also for maintenance by the Govt. of India through the UGC. All others are managed by the states which give them their constitution and funding. At the center the channels for funding are the UGC, the ICAR and the AICTE.

A significant recommendation made in the NPE has been that each state should set up a state council for higher education (SCHE) for state level planning.
and for co-ordination of plans and programmes with the state and with the UGC for maintenance of standards.

In most state universities, some state officials eg. secretaries of the deptt. of education and finance and directors of higher education and technical and medical education are made. EX-OFICIO members of the syndicate executive council and some other universities bodies.

D. INTERNAL MANAGEMENT:

The university administration has at the top, a chancellor, and a registrar. The important universities bodies are a senate or a court, a syndicate or an executive council, an academic council, faculties headed by deans and boards of studies in each disciplines. Several university now also have such bodies as a planning and development board, board for interdisciplinary studies college development council, and board of continuing and extension education to handle the new initiatives and thrusts that the universities have been taking in post independence India.

The courses of studied are framed & appointment of examiners and panels of experts to various selection committees are recommended by the boards of studied.
E. STUDENTS FACILITIES:

The number of students at the post-secondary level in 1947 was 2,29,000 while in 1993-94 there were 50,06,575 students in higher education of whom about 870,000 were in non formal/distance education/correspondence course and continuing education. Correspondence courses and continuing correspondence course and continuing education by the turn of the century the total enrolment is likely to be seven to eight million and reach thirteen million by the year 2010.

The age group of student in University and colleges is by the large 17 to 23 of distance and continuing education students, and research scholars.

Sport facilities are limited, partly because of shortage of funds, modest financial support is provided to universities by the UGC for infrastructure facilities. More professional and institutional attention is being given to coaching and participation in University level and National and International sports and games events.

With the support from the UGC about 40% of the colleges are able to maintain book banks, from which course books are lent to the students for the whole year.

F. BRIEF HISTORY OF UNIVERSITY EDUCATION IN GUJARAT STATE:

In the state of Gujarat universities vast area region in country of India. Gujarat state is a developing in education field. Ten universities excluding Agriculture, Ayurvedic etc. established in Gujarat State. Gujarat University on the recommended of the committee constituted under the chairmanship of Honourable G.V. Mavalankar, an Act was passed in 1949 by the Bombay Legislature for establishment and incorporation of Gujarat University was incorporated in Nov. 1956 Sardar Patel University was established in 1955.

The Charutar Vidhyamandal and educational society was formed in 1946 in Kalra district in the state of Gujarat with specific objective of promoting
higher education in rural areas. As a first step, the Charutar Vidhamanda established an arts and science college, an engineering college and a commerce college in the rural setting. 4 Mmless away from the township of “Vallabh Vidhyanagar” was built around the nucleus colleges, where Sardar Patel University is now situated. South Gujarat University was established in 1967. It was in the year 1954, that the late principal Atishukshankar Trivedi of S.B. Garda college, Navsari emphasized the need for a new university to meet the needs and aspirations of the people of South Gujarat. Leading citizens submitted a memorandum for establishment citizens to university Grand Commission in 1960-61. North Gujarat University was founded on May 17, 1986 by an ordinance of Gujarat state ratified by Act No. 22 of 1986. The jurisdiction of the university extends to the districts of Banaskantha Mehsana and Sabarkantha. The university has 57 affiliated colleges.

Bhavnagar University was established in 18 April, 1978. The state Govt on report of the committee established a teaching and residential university at Bhavnagar. The Act was amended in 1987. Jurisdiction of Bhavnagar Districts. The university has 12 affiliated colleges and on recognized institution. Library facility has provided and 71,379 books, 596 periodicals, years additions many books.

Saurashtra University was established on 23rd May, 1967 with its headquarters at Rajkot. Some sections the Act were amended in 1968 (Gujarat Act. No. 21 of 1968). Bhavnagar was declared as another headquarter. Section 54 of the Act was amended in 1979 (Guj. Act 11) Section 52-A of the added in 1980 (Guj. Act 19). Some sections were amended in 1982. Section 59 of the Act was amended in 1983 (Guj. Act 9 of 1983). Extends to the revenue districts of Amreli, Jamnagar, Junagadh, Rajkot and Surenderangar. The uni. has 88 affiliated college and two recognized institutions Enrolment (1992-93) 29,989.

G. DEVELOPMENT OF UNIVERSITY, EDUCATION IN GUJARAT:

In many developing countries if not all of them there is a clearly observable lopsidedness in the configuration of development. There is an
apparent, lack of co-ordination and synchronization of economics and education. The level of education is rather low because under development is not only in relation to under developed areas of the earth is but also and more so in relation of the underdeveloped areas of the mind, therefore the educational development needs to be harnessed to national development. That is why, higher education and university education have vital role to play because the susceptibility to change and capability for development among the people commensurate with the level of learning and training.

Higher education & university education constitute the backbone of any programme of human resource development. And yet, all the three levels of education including the higher education are suffering from want of national purpose leadership and direction. As a consequence, it is contributing relatively less in proportions to its potentially to the eco-growth and social progress of the national educational planning requisites.

01. The right selection and exact definition of the institutional objective.
02. Determination of the needs and a strong will required for achieving them.
03. The preparation for the systematic achievement of the objectives within stated period of time.

In a developing states the priorities may not be agreed upon early because of so many great problems and scarcity of resources. Policy and objective change due to change in government.

So until there will be a real solution to those problems there is little hope of successful attainment of the goal of a useful and wise university plan.

Problems of universities in Gujarat :
(1) Accounting & Reporting Problems :

Determination of cost is not the only area posing conceptual problems. The entire system of educational institution according has to be examined and improved so that it may highlight the purposes (served by different educational activities. What financial statements (operating statement, fund flow statement,
balance sheet etc.) have to be prepared and by which segments will depend upon the needs of the users of such statement. While the govt. legislatures donors etc. represent the external users, the university mgt. at various levels of needs accounting information regularly for purpose of ensuring accountability, evaluating, performance watching progress etc. while the needs of external users are being attended to those of the management are being a trust completely neglected. There is need for introduction of properly designed management control and information system in large universities where sizeable expenditure is involved on a variety of financial activities.

H. HISTORY AND OVERVIEW OF SAURASHTRA UNIVERSITY :

Saurashtra University was established under the Saurashtra University Act, 1985 (Gujarat Act 39 of 1969) in on the 23rd May, 1967. The Act was modified in November, 1967 and the Head Quarters of the Uni. Were located at two places main headquarters at Rajkot sub-campus was at Bhavnagar University from 24th 1979 the jurisdiction of Saurashtra University now remains over the five districts, Amreli, Jamnagar, Junagadh, Rajkot and Surendrangar.

After the separation of the university from the Gujarat Uni. in the year 1967. Thirty five colleges formerly under the jurisdiction of the Gujarat University had been transferred to the Saurashtra University had been transferred to the Sau. Uni. At present there are 96 more colleges have since stated functioning and now the total number of affiliated colleges in 131 including two recognized institution.

In the university library a special Bureau has been setup which advises a large number of students and other visitors who are in need of information regarding education facilities abroad particularly in countries like U.S.A., U.K., U.S.S.R. and Germany.
I. HISTORY & OVERVIEW OF GUJARAT UNIVERSITY:

It is against a background of adventure and spirit of self-sacrifice that Gujarat University had been conceived since nineteen twenties in the minds of public spirited and leavened men like Gandhiji, Sardar Patel, Acharya, Kasturbhai Laibhai and many others.

It could not, however actually take birth till after the achievement of independence, when in 1949 it was incorporated under the Gujarat university of the state government as a teaching and affiliating university as a measure in the decentralization and reorganization of the university education in the then province of Bombay.

During the course of the life of 56 years the university has seen the rise of twenty more universities. Sardar Patel University Saurashtra University Bhavnagar University South Gujarat University Gujarat Ayurvedic University Gujarat Agri. Uni. and others. Even so the Gujarat University in the largest university. In the state catering to the needs of higher education of more than 2 lacs of students scattered over 235 colleges. 15 recognized institutions and 23 approved institutions. There are 34 post graduate university departments and 221 P.G. Centers.

J. PROBLEMS AND PROSPECTS OF EDUCATION OF UNIVERSITIES:

Educational administration is not the same thing as public administration. There are at least two reasons for this. First teachers, research scholars and students are not subordinates to the administrator. They are all partners to improve the quality of educational standard, those standards of thought and action which make an individual and a nation. As the Prime Minister Jawaharlal Nehru (1947) addressing the Convocation of Allahabad University (of which the author was a student of the University at that time), eloquently stated, “A university stands for humanism, for tolerance, for reason, for progress, for the
adventure of ideas and for the search of truth. It stands for the onward march of the human race towards even higher objectives”.

Second, the universities must bring the academic talents of their faculties and idealism of their youthful students to bear on the problems of the common people of the land. As the University Grants Commission, 1987 affirms, “All universities and colleges should develop close relationships, of mutual services and support, with their local communities, and all students and teachers must be involved in such programmes as an integral part of their education”.

Even though the nature of public administration in recent years has changed, it is still more concerned with maintenance of law and order which in most cases alienates the administrators from the common man. Even when the public administrators are entrusted with development work, the officers hardly maintain any productive relationship with the multitude of common men who are deprived of the minimum privileges of a dignified life. Public administration, by and large, is a bureaucratic organization without having any conducive environment for meaningful and fruitful co-operation among different levels of administration (which is hierarchical in character) and with common men who are desperately trying to meet the challenges of life. Education administration therefore implies a different connotation in comparison to public administration.

K. BUDGET FOR HIGHER EDUCATION:

Budgetary expenditure on higher education has grown very slowly whereas the demand for higher education has gone up very fast. This is logical because with increasing enrollments in secondary education owing to approaching universalisation in elementary education and very improved pass percentages in secondary school examination results, the pressure of students in higher education is bound to increase. The budgetary allocation to higher education in UP is given in Table-1. (for earlier details vide: Muzammil: 1989).
Table 1.11 : Budgetary Expenditure on Higher education

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AMOUNT OF EXPENDITURE (IN RS. CRORES)</th>
<th>PERCENTAGE TO TOTAL STATE EDU. BUDGET</th>
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<tr>
<td>1997-98</td>
<td>329.64</td>
<td>7.9</td>
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<td>1998-99</td>
<td>391.28</td>
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<td>2001-02</td>
<td>471.65</td>
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</tr>
<tr>
<td>2002-03 RE</td>
<td>494.38</td>
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</tr>
<tr>
<td>2003-4 BE</td>
<td>519.57</td>
<td>7.7</td>
</tr>
</tbody>
</table>


Resource constraints to higher education are visible from the Table-1.11. The constraints manifest themselves in many ways. The following points are worth noting.

The share of higher education in the state's total education has been under 8 per cent level in general. As will be shown below, the school expenditure claims have crowded out the higher education allocation in UP without developing any alternative mechanism of making the higher educational institutions self-sustaining in their financing.

Over the last decade, often budget estimates (BE) were higher than the revised estimates and which in turn were higher than the actual recorded expenditure.

Some times absolute budget allocation has shown a decline, which sent many universities into deficit.

The rate of increase in educational expenditure at the higher level has been too slow to keep pace with the requirements of quantitative expansion and qualitative improvement.
The political economy factors have often played more decisive role than the legitimate economic and financial arguments (for details of reasoning and examples of how pressure groups became effective to influence the budgetary allotment of funds, vide: Kingdon and Muzammil: 2001 and 2003).

Table 1.12 : Plan Expenditure (Budget Expenditure) 2003-2004 on Higher Education

<table>
<thead>
<tr>
<th>HEAD OF EXPENDITURE</th>
<th>AMOUNT (RS’000)</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Direction and Inspection</td>
<td>Nil</td>
<td>-----</td>
</tr>
<tr>
<td>2. Grants to Universities</td>
<td>30016</td>
<td>45.1</td>
</tr>
<tr>
<td>3. Government Colleges</td>
<td>14510</td>
<td>21.8</td>
</tr>
<tr>
<td>4. Grants to Non-Government Colleges</td>
<td>20000</td>
<td>30.0</td>
</tr>
<tr>
<td>5. Scholarships</td>
<td>2000</td>
<td>03.0</td>
</tr>
<tr>
<td>6. Other Expenditure</td>
<td>Nil</td>
<td>-----</td>
</tr>
<tr>
<td>TOTAL:-</td>
<td>66526</td>
<td>100.00</td>
</tr>
</tbody>
</table>


It indicates that universities received 45.1% grant, government colleges received 21.8% grant, non-government grants colleges received 30% grant and scholar students received 03% grant during 2003-04 from UGC.
Table 1.13 : Non-Plan Expenditure (BE) 2003-2004 on Higher Education

<table>
<thead>
<tr>
<th>HEAD OF EXPENDITURE</th>
<th>AMOUNT (RS’000)</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Direction and Inspection</td>
<td>38596</td>
<td>0.76</td>
</tr>
<tr>
<td>2. Grants to Universities</td>
<td>716112</td>
<td>13.96</td>
</tr>
<tr>
<td>4. Grants to Non-Government Colleges</td>
<td>3895000</td>
<td>75.94</td>
</tr>
<tr>
<td>5. Scholarships</td>
<td>3500</td>
<td>0.07</td>
</tr>
<tr>
<td>6. Other Expenditure</td>
<td>8110</td>
<td>0.16</td>
</tr>
<tr>
<td></td>
<td><strong>5129124</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>


Table 1.13 indicates that UGC spent 0.76% direction and inspection 13.96% on universities, 9.12% on colleges, 75.94% on non-grant colleges, 0.07% on scholarships and 0.16% on other expenditure during 2003-04.

Table 1.14 : Aggregate Higher Educational allocation (plan + non-plan) 2003-2004

<table>
<thead>
<tr>
<th>HEAD OF EXPENDITURE</th>
<th>AMOUNT (RS’000)</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Direction and Inspection</td>
<td>38596</td>
<td>0.74</td>
</tr>
<tr>
<td>2. Grants to Universities</td>
<td>746128</td>
<td>14.36</td>
</tr>
<tr>
<td>3. Government Colleges</td>
<td>482316</td>
<td>9.28</td>
</tr>
<tr>
<td>4. Grants to Non-Government Colleges</td>
<td>3915000</td>
<td>75.35</td>
</tr>
<tr>
<td>5. Scholarships</td>
<td>5500</td>
<td>0.11</td>
</tr>
<tr>
<td>6. Other Expenditure</td>
<td>8110</td>
<td>0.16</td>
</tr>
<tr>
<td></td>
<td><strong>5129124</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 1.14: indicates that 0.74 % on direction & inspection, 14.36 on Universities, 9.28 on government colleges 75.35 on non government college, 0.11 on scholarship and 0.16 on other expenditure during (2003-04)

Table 1.15: Education Expenditure Ratios (percentages) for various years (School Vs Higher Levels)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>ELEMENTARY EDUCATION</th>
<th>SECONDARY EDUCATION</th>
<th>SCHOOL EDUCATION</th>
<th>HIGHER &amp; OTHERS</th>
<th>TOTAL EDUCATION EXPENDITURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960-61</td>
<td>33.92</td>
<td>20.06</td>
<td>53.97</td>
<td>46.03</td>
<td>100.00</td>
</tr>
<tr>
<td>1970-71</td>
<td>48.68</td>
<td>23.94</td>
<td>72.62</td>
<td>23.38</td>
<td>100.00</td>
</tr>
<tr>
<td>1980-81</td>
<td>49.47</td>
<td>31.72</td>
<td>81.29</td>
<td>18.71</td>
<td>100.00</td>
</tr>
<tr>
<td>1990-91</td>
<td>57.87</td>
<td>30.06</td>
<td>87.93</td>
<td>12.07</td>
<td>100.00</td>
</tr>
<tr>
<td>1995-96</td>
<td>55.43</td>
<td>33.03</td>
<td>88.46</td>
<td>11.54</td>
<td>100.00</td>
</tr>
<tr>
<td>1997-98</td>
<td>54.61</td>
<td>33.10</td>
<td>87.71</td>
<td>12.29</td>
<td>100.00</td>
</tr>
<tr>
<td>1998-99</td>
<td>56.83</td>
<td>31.77</td>
<td>88.60</td>
<td>11.40</td>
<td>100.00</td>
</tr>
<tr>
<td>1999-2000</td>
<td>54.59</td>
<td>31.11</td>
<td>85.70</td>
<td>14.30</td>
<td>100.00</td>
</tr>
<tr>
<td>2001-02</td>
<td>62.94</td>
<td>27.83</td>
<td>90.77</td>
<td>09.23</td>
<td>100.00</td>
</tr>
<tr>
<td>2003-2004BE</td>
<td>56.36</td>
<td>32.15</td>
<td>88.51</td>
<td>11.49</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: Computer from data in State Budgets

Table: 1.15 indicates that education expenditure ratio of elementary education was 33.92% of secondary education was 20.06 of school education was 53.97% of higher and others was 46.43% during 1960-61 at the education expenditure
ratio of element education was 56.36 of secondary education was 88.51 and of higher and others was 11.49% during (2003-04).

It shows a great increase in education expenditure ratios between 1960-01 and 2003-04.

1.3 PROBLEM OF UNIVERSITIES AS WHOLE AND PROBLEMS OF SAURASHTRA UNIVERSITY AND GUJARAT UNIVERSITY IN PARTICULAR

HISTORICALLY, three systems have served the educational needs of Indians: Bureau of Indian Affairs schools, parochial or mission schools and public schools. Recently, through the Office of Economic Opportunity, the tribes themselves established a fourth school system, primarily in the Head start Program.

These systems—still involved in attempting to better the lot of the Indian have had much experience in providing programs to meet Indians’ needs and have been in the business of education on and off reservations for many years. In spite of what they have attempted and of what contributions they have made, acute problems exist in the Indian education field.

And Indian education will not progress, develop or evolve into a dynamic field unless the problems inherent in it are identified and solved.

In an analysis of the situation, I have categorized these problems into eight broad areas, from "lack of money" to "too many instant Indian experts."

A. LACK OF FUNDS:

By far one of the most pressing problems is the unavailability of money or inadequate funding of Indian education programs or systems. The demand far exceeds the supply, and available monies are only for the most basic educational needs of the students . . . "the traditional curriculum." Very small amounts, if any, are available for innovative programs and ideas.
Without adequate funding, the ideology and philosophy of Indian education become so many words. The concept of Indian education faces a bleak future characterized by stagnation, insensitivity, inadequate facilities and personnel. Is this what we educators wish to be contented with?

The irrelevant curricula. just what do we mean by the often-repeated phrase, irrelevant curricula? My definition is that it is schools not doing their job in meeting the needs of their students—especially Indian students. This area encompasses four necessary corrections.

An Indian student presently is subjected to an educational system geared to the needs of the non-Indian student without any concern to unique problems and background of the Indian. Yes, the Indian must live in the white man’s world, but if he is to become a productive member of the human race, the schools must develop programs to meet his needs.

The American school curricula stresses values in direct contrast with the values held, in varying degrees, by the Indian. Such highly esteemed values as aggressiveness, competition, individual personal gain, out-smarting your fellow man, and verbal ability and agility are taught the non-Indian youngster from the time he is able to comprehend. These values become the foundations of the American educational system. Thus, the Indian student is thrown into a foreign situation—he has no experiential background comparable to it and consequently, retardation is "built into" the educational program as far as the Indian is concerned.

Another aspect is the stress of the English language in the system. If educators would recognize that the English language is not the mother tongue of most Indian students, educational programming could become more relevant, meaningful and rewarding to the Indian student,

If curriculum experts would include courses reflecting the positiveness of the Indians’ contributions to the greater society, another correction would be made. It is not difficult to understand why the average Indian student has a negative self-concept: he is taught in a foreign classroom, by a teacher who is
literally a foreigner, and in a foreign language that he comes from a people who were bloodthirsty, marauding killers, and that the only good Indian is a dead Indian. Correct this image by eliminating these teachings, and replacing them with more positive characteristics.

Education has directly contributed to the destruction of the institution of the family among Indians: To illustrate this engulfment rather than bridgment of parent and child, let me give the following example.

Fifth graders are studying the atom or atom bomb and its effect on society as a whole. If the Indian child seeks to understand the concept of the atom more fully in an inquiry at home, he will discover that his parents are unable to help him gain that understanding because there is no concept paralleling the atom in the Indian language. Instead of help or clarification, the child may receive some type of scolding. In the case of the non-Indian child, the parents may not know the answer, but they have other resources to which to turn—a neighbor, a set of reference books, a nearby library. Thus, the Indian child begins to question the intelligence of his parents, and when this happens, the parental role is threatened and weakened. This weakening continues as the child progresses through school because the parent falls further behind, as he is not keeping up with his child. Destruction of the family institution is therefore hastened.

B. Quality:

By far the most glaring problem is the acute shortage of qualified Indians in Indian education. Materialistic gains, incentives and opportunities entice the qualified Indian educator away from this challenging field. There is much hard work and many challenges in Indian education: isolation, poor or inadequate facilities, eager but academically deprived students, but one’s ingenuity, creativity, patience and forbearance are put to a real test in facing these and other challenges. If Indian education is to meet the needs of the students, if it is to have the sensitivity required, if it is to be dynamic and viable, it must have more qualified Indian educators—it must reach the stage wherein it will challenge the Indian educator to take up arms to join its ranks and to improve its lot.
C. Insensitive school personnel:

It is tragic that this exists in the 20th Century. Too many administrators and teachers are not knowledgeable about the American Indian. Whether it is attributable to apathy, indifference or design does not lessen the problem. If school personnel are truly educators, it behooves them to learn about the people they are teaching: To fail in this task is to fail to educate. The burden of this responsibility rests squarely on the shoulders of the educator, and the exercise of that responsibility is long overdue.

D. Differing expectations of education programs:

As noted in the section on irrelevant curricula, the American educational system is foreign in concept, principle and objective to the Indian student. The thinking, attitudes and experiences of the non-Indian are the base of the value structure rather than the aspects of Indian culture. Thus the educational perspectives of the Indian are not considered. The Indian views education as providing him with immediate practical skills and tools, not a delayed achievement of goals or as means for a future gain.

E. Lack of involvement and control of educational matters:

The Indian has not been able to express his ideas on school programming or educational decision-making. When they have been expressed, his participation has been limited and restricted. If problems in Indian education are to be resolved, the Indian citizen must become involved. He needs to have more control in the programs to which his children are exposed, to have a say in what types of courses are in the curriculum, to help hire teachers, to establish employment policies and practices, and all of the other responsibilities vested in school administration—that of being on a Board of Education. There are working examples of Indian-controlled school boards. These dynamic systems point up the fact that Indians can handle school matters. It is time that more Indians became involved in such control.
F. Difficulties of students in higher education:

Colleges and universities need to establish programs which can deal effectively with the problems and needs of the Indian student—if he is to remain in school. In general, the Indian student has an inadequate educational background as he may have been looked upon as less than college material in high school. He has unusual adjustment problems and usually inadequate financial help. It is time that more colleges and universities attempt to solve these development factors and provide a more successful educational experience for the Indian student.

To the detriment of Indian education and its growth, each day sprouts more "instant Indian education experts," who do more damage than good. Usually, these experts have all the answers: they have completely identified the problems and have formulated solutions, but they leave it to the Indian to implement. Again, the Indian is given something to implement which he has had no part in formulating. These experts usually depend on superficial, shallow studies done in one visit to a reservation or school, or they depend on one or two conferences with Indians who have little or no knowledge of the critical problems confronting the Indian generally. Indian education can well do without these experts who cannot be reasoned with or who feel they know what is best for the Indian.

There may be other factors which contribute to the problems of Indian education, but these eight areas are, I think, contributing to the situation wherein Indian education is not realizing its full development.

RESPONSIBILITY AND REASONS OF HIGHER EDUCATION:

Education of people is very expensive. All have no resources to meet the expenses of education. But for better governors (service), education for all is essential necessity. It is the responsibility of the State to educated all. After all, government is of the people, it is not other race or alien. Hence it should not be far from the people and off the people after being elected by them and forming
the government on behalf of them. It is the people’s government thinks for betterment of all to keep the promises laid down in the Preamble of the Constitution of India that is to secure to all its citizens justices (which is mother of all peace), liberty, equality and fraternity. Article 41 of the Constitution of India (1993) giver all citizens right to work, to education and to public assistance in certain cases. It states that the State shall, within its limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old ages, sickness and disablement, and in other cases of undeserved want. Article 26(1) of the United Nations’ Universal Declaration of Human Rights (of which Government if India is also a signatory) states, “Every one, has the right education…..Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit” (Human Rights: The New Consensus, 1994). But Radhakamal Mukerjee (1967) observed and said at the inaugural Session of the Seminar on ‘Education as Investment’. “To my mind planning in India has processed from crisis to crisis largely because of the low priority given to education from the very start, Education not only for the liquidation of illiteracy by more essentially for the dissemination of general and applied science and technology and the technical know-how and skills of modern living must now be seriously taken up by the present plan…… Further, beyond and above economic returns, education cerates and disseminates values and ideals of life that are intangible and imponderable, non-economic and non-measurable. Planning for socialistic economy in India cannot succeed at all without new social ambitions and values of equality and justice being deeply and widely acknowledged and disseminated among the common people. The right type of education creates the proper social and intellectual climate of arousal not merely of intellectual curiosity, inventiveness and adventure but also of new social aspirations in a progressive community.”

The World Bank, rich nations, rich people within the nations, philanthropists, buildings, lands and other movable and immovable properties of
the institutions of higher education, alumni of the university or college, private educational charitable trusts, and distance mode of education may share to the burden of the government in financing higher education.

However, the sole responsibility of higher education should be on the government. And in a democratic country, it is a must because the government is of the people, it is people's government. Democracy can survive only with the highly educated people. And where is no democracy, there higher education can give birth to democracy. Therefore, government should mobilize the resources to finance all levels of education including higher education to build a non-exploitative society.

It is good news that government has decided to finance the institutions of higher education. UGC Chairman, Arun Nigavekar (2003) has told The Hindu about three new schemes of the govt. to fund colleges. Under the first scheme, colleges in remote areas will be extended additional funding of Rs. 10 to 15 lakhs apart from the general funding with an idea to provide the best infrastructure to students of backward areas. Under the second scheme, colleges that are eligible to receive UGC funds will be provided with an additional Rs. 10 Lakhs to 15 Lakhs to improve facilities. College of repute will in the third category where the UGC plans to give funds ranging from Rs. 35 lakhs to Rs. One crore based on their initiation for achieving academic excellence and fulfilling certain norms laid down.

Today the whole world has become a global village. Wealth of the world belongs to all. The World’s population is about 6 billion, but the world has the resources to meet the needs of about 15 billion people. One or a few persons’ freedom from want and ignorance in danger for them and the rest of others. Therefore, world resources must be distributed and used properly in the planning of higher education of the people of all nations.

The World Bank is the first and foremost financial institution to enable the underdeveloped and developing nations by granting them fund for proper planning and execution of higher education for their people. The World Bank
deserved appreciation for extending financial assistance to the University engineering colleges. The World Bank (2003) has in principle agreed to extend about 100 crore to university engineering colleges in the State of Andhra Pradesh in India for their technical up-gradation. Apart from engineering colleges, at least 10 polytechnic colleges are expected to receive financial assistance of Rs. 10 crore each under the World Bank funded Rs. 1,550 crore Technical Education Quality Improvement Programme. But the World Bank should extend financial assistance to all courses of higher education run in all States of India.

Rich nations should also generously donate money and other things to the poor and needy nations so facilitate higher education for their people. It is a nice gesture of the government of United Kingdom for extending financial assistance to the government of India for the development of education for all. Britain (2004) on Monday 4 October announced support of Rs. 1,555 crore (190 million pounds) for the Sarvashiksha Abhiyan of the government over the next four years. But the government needs financial help from other rich nations also for the development of all levels of education including higher education.

Every nation has some affluent people in its territory, and they should be encouraged to help their government in managing higher education by extending their financial support. Pandit Madan Mohan Malaviya asked the then Kings, and rich people of the country to donate money and the land for managing Banaras Hindu University. Still the government may institute a fund for higher education and request the have people of the country to generously give some money to the fund.

Philanthropists’ financial help should also be taken by the government in the management of higher education.

Buildings, land, and other movable and immovable properties should also be used properly for the purpose of managing higher education.

Alumni of the educational institutions can also assist the government financially in managing higher education. It is worth mentioning here that two former students of Indian Institute of Technology, Bombay in India donated heavy
amount to the Institute. Mr. Nandan Nilekani contributed Rs. 6.9 crore and Mr. Kanwal Rekhi Rs. 8.5 crore to their Alma Mater. But other should also be encouraged to do so for the development of their respective institutions.

Private educational charitable trust which is founded only for charity work can also share the burden of the government with regard to financial responsibility in discharging the duty in managing higher education by opening the institutions of education with the motive of no profit.

Due to advancement in science and technology, distance mode of education can also share more financial responsibility with the government in managing higher education in much effective way with less investment for more people by minimizing the cost of higher education. And in the long run, this very mode of virtual institutions of higher education will take the place of traditional universities and colleges. In further, every home will be an institution of higher education. A teacher of one subject will be either in Delhi or Mumbai or Calcutta or Madras or even in Moscow. Beijing or Washington D C or Tokyo, and the black board as T V Screen or Screen of the Computer will be in every home. In the past, there was a time when every home was a type of polytechnic.

In conclusion, if higher education is understood as merit good public good by the World body like the United Nations and the World Bank and national governments, and accordingly planned free higher education for the merit children of all-rich and poor both without and discrimination through mobilizing the variety of financial resources including world resources in the development of all nations equally, the future national societies and global society will be non-exploitative, non-violent and cooperative which would create peace within and between nations.

1.4 PROSPECTS OF HIGHER EDUCATION:

State grants in aid of education are given to the local bodies and the private agencies. They differ with me the type of local body and the area it serves as well as its financial resources. They may be higher for municipalities and local bodies in rural areas and for those with merge finances. The grants also vary
with the category of institution as well as its locality. The rates of grants to the universities, colleges, secondary schools, primary schools, pre-primary schools and other special institutions may be different. The institutions located in rural areas, doing some pioneering work or catering for the education of backward people or a special type may be paid at a higher rate than those in the urban areas or imparting general education.

- The management is made responsible for the maintenance of proper records and accounts according to the departmental rules and for subjecting them to inspection and audit whenever required. It is expected to submit annual financial statements certified by chartered accountants.

- The educational facilities should be provided by the institution without any discrimination of caste, creed or colour.

- The management should undertake to maintain the prescribed standards of instruction and discipline.

- The rules of the department relating to appointment of teachers, payment of salaries, and age of superannuation, rates of fees, minimum enrolment and attendance should be observed.

- The rates at which recurring and non-recurring grants will be given to the various types of institutions are prescribed.

- The department of education reserves the right of reducing, withholding and stopping the payment of any grant in case of violation of rules.

- The grants cannot be claimed as a matter of right and will depend on the availability of funds with the state government.

In addition to these general conditions, the state codes lay down various special conditions suitable for the situation obtaining in their regions. These conditions may be in regard to the composition of the management committee, its registration under the Societies Registration Act, operation of the institution funds, minimum enrolment for eligibility of grants of applying for grants periodicity
of payments and reassessment of grants, the authority empowered to sanction grants and the like.

The state governments generally gave two kinds of grants. One is the recurring grant to meet the operational cost of the establishment while the other is the non-recurring grant which subsidizes the capital expenditure on construction of buildings and purchase of equipment.

(1) Grants (Funds) from the Government of India/University Grants Commission:

- **Maintenance (Non Plan) grants (section 19)**

  (1) The normal activities of the University are funded under the Block (some of the University are funded by statutory Provision for Fellowships and Scholarships).

Note: (a), (b) & (c) relate to the existing activities under the present Block.
**Restructuring University Education:**

Today, it is recognized that university education is not only an important element in improving high intellectual standard, but also to provide right kind of leadership for social and economic improvement and strive to promote equality and social justice by reducing social and cultural differences through diffusion of education. The National Policy on Education, 1986 (Government of India) also visualized that education is to be:

a. a process of empowerment which is to be promoted through the development of knowledge, skills and values (Education for Development), and

b. an instrument of social change that provides means for upward economic and social mobility through enhancement of qualification (Education for Equality).

The major question, which needs a critical analysis, is how far higher education in India has been an instrument for the nation’s progress, security and welfare and what kind of changes should be introduced so that they can meet the challenges should be introduced so that they can meet the challenges of the 21st Century.

**01. Partnership between world of knowledge and world of work:**

It will not be an exaggeration to say that most of the Universities in India have an ‘ivory tower existence’, sharply differentiated between theory and practice and placed a premium on aloofness. The traditional value system have made them more or less elitist in character and divorced from realities of life. A time has come when the Universities will have to function under the all pervading influence of the electronic communication revolution which has under written world economy globalised knowledge, accelerated innovation and facilitated individual access to information and skills. The Director General of UNESCO
also pointed out, “I should like to see the university cultivate closer relations with the worlds of business, commerce, industry, agriculture, journalism and administration”. This means the universities in the coming years should build partnerships with the various sectors of the society. The growing relationship between the “World of Knowledge’ and ‘World of Work’ would facilitate employment opportunities for all those who get the privilege of studying in universities.

02. Access:

Since higher education investments are important for economic growth, increase in individuals' productivity and incomes also having significant external benefits, it is necessary that access to higher education should significantly increase to utilize the benefits of knowledge society. In fact a highly competitive knowledge society will make unprecedented demands on Universities in the areas of higher education. Though there has been some improvement in the number of students, yet the stark reality is that only 6-7% of India’s population in the relevant age group of 17 to 23 is generally getting the benefit of higher education compared to over 50% in OECD countries and 21% in middle income countries. Though India has reached the stage of middle income countries, the level of higher education is not more than that of low income countries. Every effort has therefore to be made to increase the level of higher education at least up to 20% during the first decade of twenty first century.

03. Relevance and Quality:

The type of education imparted in most of the Universities is not relevant to the needs of the society. There is a mismatch between what is taught in our academic institutions and requirements of the industry, business, administration, the professions and ‘society at large’ (power, 2002). According to World Declaration on Higher Education. ‘Relevance in higher education
should be assessed in terms of the fit between what society expects of institutions and what they do. Relevance is a dynamic concept, it goes on changing from time to time according to social and economic changes. Kothari Commission Report therefore emphasized that there had to be (a) a radical improvement in the quality and standard of hither education to make it an instrument for the nation’s progress, security and welfare and (b) an expansion of higher education to meet manpower requirement of the nation and rising social ambitions and expectations of the people.

This implies that since there is explosion of knowledge and new areas of innovation in the technique of production, students should have the capacity to adapt themselves to the constantly charging needs of a knowledge based society. Therefore University courses of higher education should change from time to time in order to enable the students to convert information into knowledge. There should not be a rigid course programme. As has been done in most of the developed countries, there should be a flexible structure of structure of course programme, a ‘cafeteria type’ approach which will allow the students to select courses from a wide ranges of options. A time has come when teaching has to shift from teacher oriented to student oriented courses.

However to improve quality of higher education, we have to make huge investment in infrastructure so as to provide basis facilities for introduction of knowledge based course programme. We have now a few ‘island of excellence in a sea of mediocrity’. There cannot be any worthwhile change with only a few ‘showpieces of excellence’. There are universities where you do not have adequate class rooms, the class rooms that are available are not properly cleaned, latrines adjacent to class rooms give stinking smell, libraries do not get up-to-date journals or recent books, some of the teachers hardly take their classes and even if they take, they never come prepared. In view of this, it can be safely said that such Universities will fail in their ability to keep pace with the demands of technology or social needs.
04. Need for change in examination system:

Examination have been be-all and end-all of university administration in India. In some cases examinations continue throughout the year. One of the criteria to evaluate the success of the Vice Chancellor whether he can hold the examination and publish its results in time. Very often there are strikes by some of the students to postpone the examination and the administration has to submit to their demands to avoid troubles. The examination results do not really judge the merit of students, Many examiners evaluate the examination papers only by counting points. Students therefore prepare for the examinations on the basis of rote learning and memorizing. There is no scope for original thinking.

Some drastic changes should be taken to enable the students to acquire knowledge instead of only trying to get degrees by hook or crook. There will be no harm if degrees are abolished.

1.5 ROLE OF GOVERNMENT IN HIGHER EDUCATION:

National Policy on Education (NPE)\(^3\), states that, “the new policy will lay special emphasis on the removal of disparities and to equalize educational opportunities by attending to the specific needs of those who have been denied equality so far (Para 1 NPE 1992)” The objective specified in the NPE are in the best interest of a democratic society and for the fist time “equality” is priorised over other things. The policy seeks to remove inequalities based on gender, race, religion or caste together with an improvement in quality. The NPE adds, “in our culturally plural society, education should foster universal and eternal value oriented toward the unity and integration of our people” The policy document further states; “Higher Education provides people with an opportunity to reflect on the critical social, economic, cultural, moral, and spiritual issues facing humanity. It contributes to national development through dissemination of specialized

knowledge and skills. It is, therefore, a crucial factor for survival. Being at the apex of the educational pyramid, it has also a key role in producing teachers for the education system.

Today the world is in transition from industry based and regional based or national based society of 19th-20th century to knowledge based and ‘one world one village’ or global society in 21st century. The world is knowledge based society, knowledge is input and knowledge is output as well. Higher education is the key source for generating, developing improving, and disseminating of knowledge via teachers.

Swami Vivekanand on importance of education: “We want that education by which character is formed; strength of mind is increased; the intellect is expanded and by which one can stand on one’s feet. Education is manifestation of the perfection already in man”.

Guru Rabindranath Tagore has rightly defined the role of higher education a long before. In his words: “The higher education is that which doesn’t merely give us information but make our life in harmony with all existence”.

The role of higher education has been also stressed for solving majority of global problems. Excerpts “Higher Education should reinforce its role of service to society, especially, in assisting in eliminating poverty, intolerance, violence, illiteracy, hunger, environmental degradation, and diseases.”

Dr. Zakir Hussain, in convocation address at Bombay University, in 1967, referred (higher) education as a device to over all development. He stressed on the need to revolutionize higher education to trigger of cultural, economic and social revolution we need. In his own words: “To raise standard of living, to create a new social order, and to develop social responsibility and to generate moral and spiritual values, we can have no greater ally than education which is the most powerful instrument of national development”.

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4 The World Conference on Higher Education held in Parish, November 1998.
In the same direction, K. Kasturiranganm, Chairman, Space Commission, Secretary Dept. of Space, and Chairman, Indian Space Research Organization, on occasion of annual convocation of the University of Burdwan, stated: “We should recognize that education is liberating force, which enable individual to rise from mere materialistic pursuits to super planes of intellectual and spiritual consciousness. Education is a dialogue between the past, present, and the future, so that the coming generations receive the accumulated lesions of heritage and carry it forwards”. (Excerpts from his address)

The main function of education is to enrich the character. What we need today more than anything else is moral leadership founded on courage, intellectual integrity, and a sense of value. Prof. Mukherjee has outlined major tasks of higher education.\textsuperscript{5} He stated following tasks that higher education should empathise:

1. The system of H.E should be radically changed so that our society, which is currently, passing through a profound crisis of value, can rise above economic considerations and can incorporate deeper dimensions of morality.

2. H.E should enhance the societal value that forms the basis for democratic citizenship.

3. It should reinforce its role of service to society, especially, activities aimed at eliminating poverty, intolerance, violence, illiteracy, hunger etc.

4. It should aim at creation of a new society, non-violent and non-explosive.

In what way H.E contributes to overall development of the nation, Dr. Ketan Desai\textsuperscript{6} explains: The most spectacular element of the system has been the building-up of a large and highly trained pool of scientific and technical manpower, which has helped the country to modernize and strengthen its

\textsuperscript{5} Mukharjee, Vice Chancellor, University of West Bengal, in National Seminar on University Administration, January 2000.

\textsuperscript{6} Dr. Desai, the President, Medical Council of India, New Delhi. (\textit{University News}, January, 1999)
industrial base, achieve self-sufficiency in agricultural production, improve healthcare, enhance balanced power potential, and take great stride in the field of nuclear sciences, satellite communication, and oil exploration. Higher education in areas like Management, technology, computer and information, drugs, medicine and surgery, etc. is extremely fundamental for overall growth and development. Higher education has also spread reasonably amongst women in rural area, and also amongst weaker society. It has thus, provides vertical mobility for several suppressed and oppressed groups and has created a new kind of workers and intelligentsia, and a new type leadership, which did not exist before. Higher education is basic in developing positive and constructive attitudes of the people. People can be made free from clutches of superstitions, beliefs, bad customs and many other social and religious evils responsible for backwardness of people.

It has also made significant contribution to strengthening of democracy and to the efficient administration of this vast and complex society. It has promoted Indian languages and helped the growth of several social, political, and economic forces that have enriched the quality of national life.

Their protection is now correlated to capacity of social action. In this emerging scenario, universities and colleges have to play an important role. They have to respond to public needs with all their instructional autonomy and its concomitant role for social action and accountability. Even our New Policy on Education has recognized role of higher education institutions for promotion of values such as of heritage, democracy, secularism, access, equity, protection and removal of social barriers. Emphasis equal opportunity and awareness about equality of everyone constitutes an important function of education. To create awareness among students regarding human rights, education has prime role. It is the time higher education had a basic component of human rights to arrest social exploitation and aberrations that mar our society. Higher education institutions must reflect our concern for development and social integration besides preservation of democracy and peace.
Character building and preservation of relevant original values are the prime functions of (higher) education. Goods virtues can be imparted through education. It has positive impacts on human qualities like honesty, commitment, morality, sincerity, reduced crimes, awareness toward basic duties and obligations, obeying rules and policies etc. Education is a base for protection of what we have originally valuable inherited by the culture. This is true particularly when our nation is facing problem of crisis of character. Moral qualities are being polluted. This has threatened not only quality of life but also to very existence of human being. It should be remembered that crisis in character is the origin of social, political and economic evils. Higher education can be the crucial mechanism to develop and protect character values. Renan explains role of education in his own words: “the essential thing in education is not the doctrine taught but the arousing of the mind and heart and the discipline of will”.

Direct contribution of higher education can be better understood in light of below stated points:

- Economic development.
- Social development.
- Cultural and spiritual development.
- Science and technology as well as space and communication (information technology).
- Employment generation.
- Education reforms.
- Global image and reputation.
- Improve quality of life, equality, and social justice.
- Protection of ecology.
- Improved international relation and assurance of worldwide peace, etc.
Higher education is a fundamental input for continuous progress in every walk of human activity. It is the first and indispensable requirement for betterment of mankind.

1.6 ROLL OF HIGHER EDUCATION IN THE INDUSTRIAL DEVELOPMENT / ECONOMIC GROWTH OF THE NATION:

Even so, the increase in government spending over the years is not commensurate with the requirements. The Central Government finances the Central Universities rather too munificently, but is unable to spare much cash for the state universities. The result is that there are a few islands of excellence in a vast ocean of mediocrity.

Although the central Government has imposed an education cess, bulk of the proceeds are likely to be spent on the massive sarva shiksha abhiyan, the most ambitious human Endeavour ever undertaken to educate the masses within a well-defined time frame. There is also the problem of the constitutional amendment, which has converted elementary education into a Fundamental Right. Anyone can now drag the Government to a court of law, if adequate facilities for elementary education are not provided. No such overarching priority or emphasis is available to the higher education sector.

As far as the State Government are concerned, their budgets cannot allocate the kind of massive infusion of funds required in the higher education is not an area of primacy at that level. The result is that most state universities and colleges languish for want of funds even for basic requirements such as library books, laboratory equipment, teaching aids, hostel accommodation and the like.

a. The Private Sector:

The absence of any large-scale public investments in technical education has not caused any substantial or lasting damage to the system as such. Most of the engineering college, management institutions and medical college have
come up in the private sector, thanks to the hefty capitation fees charged by the private entrepreneurs.

Government policy also favored the grant of deemed university status to private institutions, with the hope that this would provide such institutions with a much-needed flexibility of approach which would enable quick curriculum renewal, changes in syllabus, innovations in the pedagogy of education and so on.

b. Foreign Initiatives:

There has been, in recent years, a virtual invasion of the country by various foreign institutions including universities, teaching shops, franchisees and testing services. Some of the local universities have also entered into tie-up arrangements with their foreign counterparts, in order to divide the academic load and in many cases with the hidden or avowed objective of having a foreign degree conferred on their students.

While all this is to the good, there is a great need for a regulatory mechanism, which has a legal backing. We cannot let our students and their parents be taken for a ride by universities that have been accredited even in their parent country. The local franchisees have to be selected with care and they should have all the necessary facilities in terms of staff, building and infrastructure, as is the requirement for domestics colleges. We should also have some regulation of the fees and other charges that the foreign institutions may be allowed to charges our students. Above all, there should be a regulatory agency with full powers to punish such foreign educational institutions as do not or will not conform to the rules.
1.7 ROLL OF UNIVERSITY GRANT COMMISSION IN HIGHER EDUCATION:

(a) Maintenance (Non-Plan) grants
(b) Plant grants
(c) Other special grants or grants for specific purposes.
   - Trust, bequest, donations, endowments, contributions and income from investments.
   - Fees from students.
   - Receipts from hostels, building lands and other properties and other miscellaneous receipts.
   - Receipts for earmarked (special) funds.
   - Grants for sponsored research schemes.
   - Receipts under debt and advances repayable.

Grants (Funds) from the Government of India/University Grants Commission:

A. Maintenance (non-Plan) grants : (section-19)

(1) The normal activities of the University are funded under the Block (Some of the Universities are funded by statutory grants payable by the State Government) Grant or Annual Maintenance Grant system by the State Government, University Grants Commission, as the case may be, as may be decided from time to time. The grant is determined on the Net Deficit principle, that is, the grant is sanctioned to cover the net deficit, for this estimates or projections of the gross expenditure and the gross receipts should be made and the grant will be gross expenditure minus gross receipts. Block Grants are normally fixed for a 5-year period, coinciding with the National Plan Periods.
The Several elements that go into the assessment of the Block requirements of the University are –

(a) Provision for salaries, all admissible allowances, Provident Fund, retirement benefits, etc.

(b) Working expenses for the University as a whole. These would include.

(i) The requirements for items coming under the Budget head “Working Expenses” for all Departments. These comprise sub items like consumables, equipment, contingencies, postage, stationery, furniture, etc.:

(ii) Recurring expenses other than salaries and allowances on all centrally administered services, maintenance and amenities, water and power charges, general academic and research provisions, the Library, centralized technical/scientific services, etc.

(d) Provision for Fellowships and Scholarships.

Note: (a), (b) & (c) relate to the existing activities under the present Block.

B. Plan and Non Plan :-

Budgeting in India distinguishes two sets of activities, one as non-plan or non development or maintenance budget, and the other as plan or development budget. In actual practice, the difference is more procedural than real, although conceptually the plan budget provides for growth, diversification and innovation while the non-plan takes care of sustenance of the ongoing system. All activities of recurring nature taken up during a five year plan period are classified as non plan or maintenance activities after the plan is over. Thus the non plan or maintenance activities after the plan is over. Thus the non plan or maintenance budgets grow in size after successive five year plans are completed, the commitment is transferred to non plan part of the budget. The Funding of central universities also reflects this practice. Support to the universities is classified separately as maintenance or non plan, and development or plan grant.
Each central university and institution deemed to be university has a Finance Committee comprising representatives of the university, local educations and a nominee each from UGC and the Ministry of Human Resources Development (usually the Financial Adviser.) The Finance Committee is a statutory authority in the central universities headed by the Vice Chancellor, which apart from its other concerns, is responsible for the preparation of the budget both for its maintenance and development. Normally, all ongoing activities of the universities, except programmes covered under the current five year plan and projects funded from sources outside the development plan come under the maintenance expenditure. This is also termed as the non plan budget which includes salary and allowances of teaching and non teaching staff, administrative expenditure on libraries, laboratories, workshops, services, estate and general infrastructural maintenance.

**C. Maintenance Grants :**

For quite a long time the maintenance grants to central universities had been paid on the basis of the Block Grant System fixed for a specified period. With the rapid development of the central universities, and in the absence of well defined norms for proper assessments and in the absence of well defined for proper assessments and fixation of levels of expenditure for different items, it had been decided that the block grant for they year be determined by the UGC on the basis of an examination of the Budget Estimates received from the universities. This had become all the more necessary because of several additional. Dearness Allowance installments announced by the Government, and the steep increase in prices in prices of books, journals and other items. While fixing the annual Block grant for particular year, the following conditions were also prescribed.

(a) The opening balance of a university out of the block grant fixed for particular year would be carried forward to the succeeding year, which would however be adjusted by the end of the third year.
(b) To ensure that expenditure is incurred within the total resources available, in the best interest of its academic function, the following guidelines were prescribed for re-appropriate within the Budget Estimates prepared on the basis of the grant payable and the resources generated from its own income.

(i) No appropriations may be made which would have the effect of augmenting the provision for salaries and allowances.

(ii) The provision made in the estimates for scholarships and fellowships should not be re-appropriated to any other head, and

(iii) If there are any savings in Non-Plan recurring budget, they could be utilized for meeting critical academic non-recurring requirements.

The above guidelines were prescribed in addition to the following instructions issued earlier in relation to the payment of Block grants for which prior approval of the UGC was condition.

Creation of post with a maximum of the scale of pay beyond Rs. 1000.00 per month.

D. Development (Plans) Grants (Fund):

General

(1) The development programmes of the University are financed generally by the University Grants Commission. In case of certain schemes/projects, the State Government provides matching share of Development (Plan) Schemes as indicated in sub-Section 4 of this Chapter.

(2) The University submits proposals for the development of its activities to the University Grants Commission from time to time. These proposals, called “Plan Proposals” are drawn up normally for period’s coin ding with the county’s plan periods. The elements of a Development Plan get identified in several ways over a period of time.
The following examples are illustrative:

- Some areas are identified internally in Departments in the course of pursuing their normal activities.
- Some elements may represent areas of special interest of some faculty groups, which the authorities feel should be supported as relevant and desirable.
- Yet some others may get identified in the process of implementing the present approved Plan activities.
- Sometimes a new activity is phased over two or more Plan projects.
- Also, an activity might have been included in the previous Plans, but owing to several reasons it might have been decided that is should be provided for in a subsequent Plan proposal.
- There might be others which the University desires to take up as items representing urgent needs.
- Finally, a Plan for a subsequent period should make provision for any spill over of activities from the preceding Plan.

(3) Normally the University receives an indication from the University Grants commission of the Plan finances that might become available to the University during the forthcoming Plan period. Such an indication is normally given in advance of the close of the current Plan period and the University is requested to formulate its Plan within the anticipated Plan finances and also work out the priorities amongst the several items in the proposals.

Based on the recommendations of the Visiting Committee appointed for the purpose and the financial resources available for the Plan period, the University during each of the Plan periods. The grants mostly relate to implementation of schemes of recurring and non-recurring nature for the purpose of the creation of new post under the new departments or for expansion of the existing Departments and purchase of
books, equipment, etc. or for the construction of buildings. The grants are sanctioned on the specific conditions to be complied with by the University. The following conditions need a special mention.

The Finance & Accountants Department shall maintain a Demand Register for watching the receipt of grants due from the University Grants Commission, State Government and other Bodies. It will also maintain a Register to watch the progress of expenditure against the grants received for individual schemes.

At the end of every month the Finance and Accounts Department shall prepare a report showing the various grants in aid the due to the University in respect of the expenditure incurred from the Development (Plan) grants, their actual receipt, and the balance receivable. The report shall be supported by a review indicating the probable requirements of the immediate future and suggest suitable measures for providing the required sums. These measures may include encashment of investments, if any, or proposals for transferring or temporarily advancing amounts one account to another.

(ii) **Utilization Certificates**

A statement of accounts duly audited and a certificate from the statutory Auditors of the University to the effect that the grant has been fully utilized for the purpose for which it was sanctioned and that the University and or the State Government has contributed from its own funds its share of expenditure, where stipulated, is required to be furnished to the Commission as soon as possible, is required to be furnished to the commission as soon as possible, at the end of each financial year. In the case of Maintenance and Development grants provided by the University Grants Commission, the utilization certificates are required to be submitted in two stages: (i) immediately after the accounts of the year are closed, and (ii) after the account of the year are audited by statutory Auditors. In the case of Maintenance grants the
certificate would be for the expenditure against the total Block grant received during the year. In the case of Development schemes, however, the certificate would be drawn up separately for each scheme.

(iii) **Maintenance of the Assets :-**

Maintenance of the Assets created out of the University Grants Commission Grants. One of the conditions of the University Grants Commission relating to its grants is that the assets acquired wholly or substantially out of the grant shall not be disposed of encumbered or utilized without prior sanction of the Commission for purposes other than those for which the grant was given and should at any time the grantee ceases to function such assets shall revert to the Commission. The University is, therefore, required to maintain a register of such assets. The registers in the prescribed Performa shall be made available to the Departments by the concerned unit of the Registrar’s Office. The Heads of Departments shall maintain the register up-to-date shall furnish the following certificates to the Finance Officer every year before 15th April.

(C) **Other special grants (funds) or grants for specific purposes :-**

The unit costs of higher/University education are highest because the inputs at this level require more funds to provide specialized education when knowledge is exploding in exponential terms. Further, the number of students is also increasing due to awareness of the need for education at all levels. But the sources of funds are dwindling and due to inflation they become further reduced over the years. This results in increasing demand on Government investment on education. Hence, there is need to encourage universities dependence on Government could be reduced and ultimately eliminated. Justice Punnayya Committee of the UGC has recommended “Any additional resources generated by a university/institution may provide matching grants as an incentive to universities generating additional resources.
In this context the possibilities of creating new endowments and raising funds for development are discussed here. Further, a strategy to have multiplier effect on the investments is also described. Such efforts could help to reduce financial constraints of universities.

d. Acceptance of Trusts, Bequests, Donations, Endowments, etc.

No Trust, Bequest, Donations, Endowments, etc. shall be accepted save with the permission of the Executive Council. A copy of the letter communicating the acceptance of the proposal by the Executive Council shall be endorsed to the Finance and Accounts Department. Separate files containing terms and conditions approved by the Executive Council in respect of each trust, endowment, etc. shall be maintained.

• Income from Trusts, Endowments etc.

If the intention of the donor is to create a fund by the amount of the donation and to meet the expenditure on a specified object out of the income of that fund, the amount will be invested subject to the general directions of the Executive Council in this respect. A proper watch should be kept over the income from the various trust, endowments, etc.

• Utilization of Proceeds of Trust Funds/Endowments :

The endowments or donation of money or other property, or the proceeds thereof, as the case may be, should be applied with due regard to the conditions, if any, which the endower or the donor may have imposed. In the case of amounts endowed by an individual or society without mentioning a specific purpose, the moneys will be expended on the objects approved by the Executive Council.

• Accounts of Endowments, Trust Funds, etc :

A separate set of books of accounts – register of endowments/ donation, cash book, ledger showing individual account of each endowment/donation, register of scholarships and prizes, register of
investments – shall be maintained in respect of the conditional donations and endowment.

The amount of interest accrued and realized shall be credited to the Earmarked Fund Account. In the case of immovable property vested in the University, the University acting as the administrator of the trust and having the possession, management and control of the property and the application of the income there from, shall, in the books to be kept by the University, regularly enter or cause to be entered full and true accounts of all moneys, received and paid, respectively, on account of the trust. The account of such property shall be kept in the register of immovable property. A note of any property of which the University in divested, either by sale or otherwise, shall also be recorded in the same register against the original entry.

A separate account for each property let out on lease or rent shall be kept. Where the property endowed consists of valuables or other precious work of art or a relic of historical or special interest, an entry thereof shall be made in the register, of valuables and the property shall be kept in such safe custody as the Vice Chancellor may direct.

A separate stock account shall be maintained by the relevant Branch of medals, etc., purchased for being given away as prizes : issues being accounted for on a certificate of distribution signed by the Registrar.

- **Annual Account** :

The Finance Officer shall prepare annually a statement showing the financial position of each endowment/trust fund separately and it shall be attached with the Annual Account of the University. He shall also prepare an abstract of income and expenditure, in respect of endowments/trust funds for the next financial year, which shall be appended to the Budget Estimates.
• Annual Review:

A review of the utilization of amount, in case of endowments, trust funds, etc. during the academic year shall be submitted to the Executive Council in July every year.

(2) Fees from Students:

Fees have been the second largest source of university income after government contribution – central and states. In spite of the fact that the central and the state governments have given increasing subvention to the university institutions, the fees contributed almost every third rupee to the total income of the universities and colleges.

Fees include all kinds of money collected from the students. In ancient times in Indian students raised food, reared cattle and tended the Ashramas. Their produce met the cost of maintenance. In recent times Gandhiji’s scheme of Basic Education put forth the idea of self supporting education. The advantages of this method are that institutions become free of government interference and send out persons imbued with the philosophy of work and ready to join society as full-fledged and competent members. The disadvantages are that the scheme does not work in practice. Student’s freedom may be curtailed, their potentialities may not be fully realized and there may arise difficulties of suitably qualified staff, etc.

The various kinds of fees charged are tuition fees, magazine fees, games fees, building fee, laboratory fee, library fee, reading room fee, punkha fee, building fee, etc. The government lies down that a few students of different categories may be exempted from charging fees. The government herself reimburses this amount. This is also included under fees, but, fees changed of behalf of the board of education or the university examination and the registration fees, etc., does not come under this source. Similarly special fee charged for specific purposes such as bus fee, mid-day meal fee, etc., are also excluded from deposits, this source. Also refundable fees like caution money, hostel mess.
laboratory fee, library caution money, etc., are not included in this. Charging fees from students came into vogue in India after the recommendations made by Woods Dispatch in 1854, though government of Bengal had introduced the fee-system in 1844.

Though government of Bengal had introduced the fee-system in 1844. Later on fees charged from students become the basis of government’s grant-in-aid system. Aid was given only to those institutions which charged fees from students.

As there has been no increase in the fees for decades, income from fee has now become an insignificant part of the total income as well as expenditure of the universities. There is also a historical background to this issue. The universities are regarded in India largely as noble and charitable ventures, as an essential part of the welfare programme, with little concern for cost effectiveness and income generation. Consequently, over a period of time, university services are provided free and in many cases even the costs are not recovered. The beneficiaries, apart from the students include a wide variety of users including the public. They have also viewed the universities in this light. The fees for prospectus, admission, magazine, examination and such other activities hardly recover their costs. The fees for library, laboratories, games and similar other activities.

- **Revision of Fees**:

(1) **Tuition Fees**

Tuition fees have not been revised for a very long time in spite of the costs of all services going up. Tuition fees may be revised upwards with immediate effect and may be periodically adjusted, keeping in view the rate of inflation. A mechanism must also be evolved by universities where by these fees are regularly and periodically adjusted to the rise in the costs. The revised fees should be made applicable to the new entrants’ to a course of study. The revision of fees must be related in a meaningful manner to the recurring cost of the course of study an
employment opportunities offered by the course, that is, that the tuition fees will be different within a university for different courses of study.

(2) Other Fees:

The universities must also review all other fees structures. Fees for admission, examination, etc., must be so charged as to recover the recurring costs on the operations. Fees for library, laboratory, sports and similar other facilities must be revised upwards to recover a significant part of the recurring cost.

(3) Earmarked (Special) Funds:

It has also been observed that the U.G.C. grants are primarily ‘earmarked’ i.e. they are contingent on the implementation of certain specific programmes for which the commission’s assistance has been available. The Commission also gives what has been described as ‘unassigned grants’ that is, the University Grants Commission allocates each year a particular sum, which could be utilized by the universities and colleges for various items of expenditure without reference to the Commission. The Commission has, however, specified the item for which these grants are admissible. It may also be mentioned that another set of unassigned grant are the centenary grants, which are admissible to universities and colleges at the rate of Rs. 1 crore and Rs. 1 lakh respectively. These grants are admissible to institutions which have served the cause of education for a hundred years. In view of the very restricted character of these grants, however, they do not charge the general tenor of the U.G.C. grants i.e. they are mainly earmarked for specific programmes. The ‘earmarked’ grants, by their very nature, are for specific and the universities are eligible for them only if they implement these projects. The universities requested to indicate their preference for earmarked grants.
Major Head wise Analysis:

The Major Sections or sub divisions of the ESF are:

- Fellowship and Scholarships:
  It includes both students-aid-funds and teachers-aid-funds such as teacher fellowship, faculty improvement scholarship.

- Projects, Schemes and Programmes:
  Specific projects are funded by various agencies, which provide recurring/revenue and non-recurring/capital funds. This is a major source having high potential and could be well tapped to get more funds to equip the University with sophisticated equipment and other assets. Further by taking consultancy service for industries, income could be increased for the university as well as the faculty members. Many institutions of research like I.I.M, I.C.M.R. are encouraging such services.

- Seminars/Conferences/Symposium/Workshops
  Councils like ICSSR, ICHR and Government Departments provide funds for organizing conferences, workshops, symposia and seminars with a view to update the know-how and knowledge of faculty members through exposure to modern development. These seminars and workshops are also crucial in forging national and international linkages by exchanging experience of faculty of faculty members and experts/scientist.

I. Receipts from hostels, buildings, lands and other properties and other miscellaneous receipts.

  The Estates Officer shall be in charge of the management of landed properties and houses belonging to the University, and shall be responsible for collecting rents and dues, the payments of land revenue and other public charges, the granting of Pattas or Leases or License, if any, and doing all other acts necessary for the maintenance, protection and preservation of such properties and the collection of their income. The Estates Officer shall also deal
with the legal business connected with the University properties the direction of the University authorities.

II. Grants for sponsored research schemes:

Research activity received a filip during the post-independence period, which saw the establishment of a number of grant giving bodies for, among other things, promoting research in their respective disciplines. The prominent among such organizations are the University Grants Commission, the Indian Council of Historical Research and so on. Specialized institutions like the institutes of technology, medicine and physical and biological science were also set up to undertaking research in their specific disciplines.

III. Other Sources (Fund):

There are a number of other sources of getting money to finance education. These include donations gifts, subscriptions, bequest, fines, sale proceeds, interests on bank balances and securities, rent from buildings and loans, etc. Income from all these items was, before independence, accounted for as income from other sources. After independence, however, the income from endowments has been separated, while the other sources of income are still grouped under “income from other sources.”

Raising donation from public has certain advantages. The advantages of this method are that it makes the donors take keen interest in the well-being of the institutions and their co-operation is secured. The method is, however, of limited application in a country like India, where philanthropic people are in a microscopic minority. Adequate funds to run modern institutions with multifarious responsibilities can not be raised by donations. Increased taxation, nationalization of many industries, etc. have dried up this source of educational finance. Moreover, donors may misuse the institutions for personal benefit as has often happened.

Thus, government or public and private both the sources are utilized for financing education. The extent of each of these and the ratio between the two varies from country to country. In India there has been a practice to adopt a
combination of these two. But, the tendency, at present, is that the government share is gradually increasing while the other sources including the land grants and the endowments are shrinking.

IV. SHARE OF EDUCATION IN GDP AND REVENUE EXPENDITURE:

The Human Development Index of World Bank uses the GDP percentage spent on education as a measure of development. The countries with high growth rates in human development are spending a large percentage of their GDP on education, especially on primary education.

Table 3 percentage data on share of educational expenditure as a percentage of GDP.

It is revealed in the Table 3 that the educational expenditure in India in absolute terms is showing a continuous increasing trend. However, in relative terms the percentage has shown a fluctuating trend. From a high of 4.34 per cent in 1990-91 it has fallen to 3.80 per cent in 1996-97. Moreover, in no year the expenditure on education has exceeded five per cent and has remained at single digit.

Table 4 presents the data regarding the stage-wise break-up of expenditure incurred in India on education.

The data of Table 4 corroborates the absolute data of Table 2. For the year ending March 31, 2002 the country had spent hardly 4 per cent of its GDP on education in general. The HE has received the least importance in the country with less than half a per cent spent on it. This is contrary to the increase in number of HE institutions and the enrolment in these institutes. Table 5 gives details of stage-wise expenditure incurred on education in India as a percentage of budgeted expenditure.

The primary and secondary education has its significance in the education pattern of a nation.
### TABLE 1.16: ROLE OF CENTRE-STATES IN FINANCING DIFFERENT LEVELS OF EDUCATION (TOTAL EXPENDITURES)

<table>
<thead>
<tr>
<th>Year</th>
<th>Centre</th>
<th>State</th>
<th>Total</th>
<th>Centre</th>
<th>State</th>
<th>Total</th>
<th>Centre</th>
<th>State</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980-81</td>
<td>1</td>
<td>99</td>
<td>1537</td>
<td>2</td>
<td>98</td>
<td>1036</td>
<td>20</td>
<td>80</td>
<td>484</td>
</tr>
<tr>
<td>1985-86</td>
<td>1</td>
<td>99</td>
<td>3448</td>
<td>4</td>
<td>96</td>
<td>2293</td>
<td>20</td>
<td>80</td>
<td>1047</td>
</tr>
<tr>
<td>1990-91</td>
<td>3</td>
<td>97</td>
<td>7956</td>
<td>7</td>
<td>93</td>
<td>5531</td>
<td>21</td>
<td>79</td>
<td>2312</td>
</tr>
<tr>
<td>1995-96</td>
<td>8</td>
<td>92</td>
<td>15218</td>
<td>7</td>
<td>93</td>
<td>10344</td>
<td>18</td>
<td>82</td>
<td>3871</td>
</tr>
<tr>
<td>1996-97</td>
<td>9</td>
<td>91</td>
<td>17850</td>
<td>6</td>
<td>94</td>
<td>11735</td>
<td>17</td>
<td>83</td>
<td>4288</td>
</tr>
<tr>
<td>1998-99</td>
<td>11</td>
<td>89</td>
<td>25115</td>
<td>6</td>
<td>94</td>
<td>16721</td>
<td>26</td>
<td>74</td>
<td>6117</td>
</tr>
<tr>
<td>1999-00</td>
<td>10</td>
<td>90</td>
<td>27905</td>
<td>5</td>
<td>95</td>
<td>20845</td>
<td>27</td>
<td>73</td>
<td>8248</td>
</tr>
<tr>
<td>2000-01</td>
<td>10</td>
<td>90</td>
<td>31756</td>
<td>6</td>
<td>94</td>
<td>20489</td>
<td>25</td>
<td>75</td>
<td>10342</td>
</tr>
<tr>
<td>2001-02</td>
<td>11</td>
<td>89</td>
<td>34489</td>
<td>6</td>
<td>94</td>
<td>21444</td>
<td>19</td>
<td>81</td>
<td>8577</td>
</tr>
</tbody>
</table>

Source: P Geetha Rani, Economic Reforms and Finance of Higher Education in India, Year : 2003 www.google.co.in

However, the HE education cannot be relegated to a lower level. In addition to increasing literacy rates in the country, the Governments should aim to produce the nation builders in the form of scientists, managers, researcher, engineers, etc. Mere acceleration in literacy rate does not contribute to the growth of quality of life. The quality of life depends on the availability of competent and capable work force, willing to bear the mantle of nation building.

However, the available data indicates to the contrary. Table 5 shows that the primary and secondary stages of education take lion share of education expenditure incurred in India than the university and technical education. This
lower expenditure on university and technical education can lead to a situation where the required competent human work force may remain inadequate to remain the planned objectives.

V. Methods of Financing Higher Education Institution:

As a State subject education, including the higher education, for decades was aided and assisted by concerned State Government. The Central Government pitched itself by establishing development-oriented institutions like University Grants Commission (UGC). All India Council for Technical Education (AICTE), etc. These institutions provided basically the development grants for the institutions of higher education in the form of research founds, development grants, etc.

Table 1.17: Educational Expenditure as Percentage of GDP (Current Prices) All India

<table>
<thead>
<tr>
<th>YEAR</th>
<th>GDP (RS. CRORES)</th>
<th>TOTAL EDUCATIONAL EXPENDITURE (RS. CRORES)</th>
<th>EDUCATIONAL EXPENDITURE AS PERCENTAGE OF GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-51</td>
<td>8,979</td>
<td>114</td>
<td>1.27</td>
</tr>
<tr>
<td>1960-61</td>
<td>15,254</td>
<td>344</td>
<td>2.26</td>
</tr>
<tr>
<td>1970-71</td>
<td>39,708</td>
<td>1,118</td>
<td>2.82</td>
</tr>
<tr>
<td>1975-76</td>
<td>71,201</td>
<td>2,105</td>
<td>2.96</td>
</tr>
<tr>
<td>1980-81</td>
<td>122,427</td>
<td>3,641</td>
<td>2.97</td>
</tr>
<tr>
<td>1985-86</td>
<td>233,799</td>
<td>7,457</td>
<td>3.19</td>
</tr>
<tr>
<td>1986-87</td>
<td>260,030</td>
<td>8,450</td>
<td>3.25</td>
</tr>
<tr>
<td>1987-88</td>
<td>294,851</td>
<td>10,430</td>
<td>3.54</td>
</tr>
<tr>
<td>1988-89</td>
<td>352,706</td>
<td>12,409</td>
<td>3.52</td>
</tr>
<tr>
<td>1989-90</td>
<td>408,662</td>
<td>15,292</td>
<td>3.74</td>
</tr>
<tr>
<td>1990-91</td>
<td>477,814</td>
<td>20,761</td>
<td>4.34</td>
</tr>
<tr>
<td>1991-92</td>
<td>552,768</td>
<td>22,636</td>
<td>4.10</td>
</tr>
<tr>
<td>1992-93</td>
<td>630,772</td>
<td>25,303</td>
<td>4.01</td>
</tr>
<tr>
<td>1993-94</td>
<td>732,874</td>
<td>28,599</td>
<td>3.90</td>
</tr>
<tr>
<td>1994-95</td>
<td>868,019</td>
<td>32,875</td>
<td>3.79</td>
</tr>
<tr>
<td>1995-96</td>
<td>1,006,286</td>
<td>39,299(R E)</td>
<td>3.91</td>
</tr>
<tr>
<td>1996-97</td>
<td>1,149,215</td>
<td>43,723(R E)</td>
<td>3.80</td>
</tr>
</tbody>
</table>
Table 1.17 indicates that the educational expenditure was 114 crores and GDB was 8979 crores and educational expenditure as percentage of GDP was 1.27% during 1950-51. And GDP was 1149215 and educational expenditure as per. Of GDP was 3.80 % in 1996-97. It shows a great incensement between 1950-51 and 1996-97.

Besides the normal sources of finance, the institutions of higher education used other sources of income and the list is presented below.

♦ Tuition fees collected from students.
♦ Loans and advances from banks and financial institutions.
♦ Subsidized loans from government and its institutions.
♦ Capitation fee collected from pupils.
♦ Donations from pupils for various development purpose.
♦ Donation from local residents for various development purposes.
♦ Encouraging local patrons to provide Infrastructural facilities, etc.

Table 6 presents the data regarding the sources of income for higher education in India.

The dependence on government has a source of increasing its fees as a source of income.
The university education depends on UGC for various grants and financial assistance. UGC extends development and research grants for central and state universities besides bearing the cost of new payment scales for the first five years. The UGS has a dual role of regulator as well as a development institution. The policies of the government towards the development institution. The policies of the government towards the development of higher education are implemented through the mechanism of UGC. In view of this, it can be said that the robustness of higher education, especially university education depends on funds made available by the Central Government to UGC.

The details of the grants provided by the Government to UGC during the various year under plan and Non-Plan categories are shown in Table 7.

The information provided in Table 7 reveals that the allocation of government to UGC has shown an increasing trend, though the incremental increase is comparatively insignificant. For the year 1990-00, the government allocation has increased as compared to 1998-99. The marginal increase in
allocation and decrease in 1999-00 does not compare well with the phenomenal increase in number of institutions of higher education and students enrolment. The net result of this would be reduced availability of the grants from UGC per institution.

The Indian higher education system continues to be financed and funded in a traditional way. It is something like a child who has started learning walking by leaning on parents and continues to do so even after becoming young. When the child grows parents expect not only expect their kid to walk independently but also to run. Through running, the baby gains strength and physical stamina. The higher education system that was funded for decades by both Centre and State Government continues to look at them for its continued existence and survival. Therefore, the government financial assistance has been and continues to be a major and only source of financing it.
Table 1.18: Government Allocation of Funds to UGC (Rs. In Crores)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>PLAN</th>
<th>NON-PLAN</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992-1993</td>
<td>137.14</td>
<td>308.09</td>
<td>445.23</td>
</tr>
<tr>
<td>1993-1994</td>
<td>141.50</td>
<td>336.95</td>
<td>478.45</td>
</tr>
<tr>
<td>1994-1995</td>
<td>234.20</td>
<td>345.59</td>
<td>579.79</td>
</tr>
<tr>
<td>1995-1996</td>
<td>207.77</td>
<td>450.82</td>
<td>658.59</td>
</tr>
<tr>
<td>1996-1997</td>
<td>201.50</td>
<td>465.00</td>
<td>666.50</td>
</tr>
<tr>
<td>1997-1998</td>
<td>352.20</td>
<td>545.00</td>
<td>897.20</td>
</tr>
<tr>
<td>1998-1999</td>
<td>260.35</td>
<td>1009.00</td>
<td>1269.35</td>
</tr>
<tr>
<td>1999-2000</td>
<td>380.00</td>
<td>640.00</td>
<td>1020.00</td>
</tr>
</tbody>
</table>

Source: [www.deucation.nic.in](http://www.deucation.nic.in), the Web Site of Government of India, New Delhi.

Table 1.18 indicates that the UGC Spent 137.14 for plan expenditure and 308.09 for non plan expenditure and total was 44523 crore during 1992-93. UGC Spent 380.00 for plan expenditure and 640.00 for non plan expenditure and total was 1020.00 crore during 1999-2000. It shows increase.

1.8 GOVERNMENT POLICY RELATES HIGHER EDUCATION:

Under the 42\textsuperscript{nd} Constitutional Amendment, education is joint responsibility of the Centre and the State. Accordingly, both the Centre and the States finance higher education as the major sources of the funding. The State universities receive development assistance from the Central Government through UGC and maintenance grant from the respective States to the extent of 90%. For example, the budget estimates of the Government of Gujarat for 1999-2000 and 2000-1 were Rs. 347,20,70,000/- and 278,66,65,000/- respectively for the maintenance of university and higher education in the State. The was 8.93% of the total outlay for education. The Central universities receive development as well as maintenance grant from UGC. But UGC considers only those universities that are eligible for financial assistance under Section 12(b) of UGC Act, 1956. Of course, the deemed universities are considered under Section 3 of the Act. At present 16
Central universities and 6 inter-university centers receive development as well as maintenance grant from UGC. As to development grant only, UGC provides it to 120 State universities in addition to 24 deemed universities. In 1991-92, UGC disbursed Rs. 7200.78 lakhs to all the State universities, which increased to Rs. 16406 lakhs in 2000-2001, recording 2.5 times increase. UGC seems to be patronizing to the Central universities. As is evident from the statistics of the development-grant allocation in the tenth plan period, UGC allocated Rs. 35,573.14 lakhs to 16 Central universities against Rs. 39.397 lakhs to 113 State universities. In this case, 47.45% of the total allocation went to only 16 Central universities against 52.55% to as many as 113 State universities.

Post Independence, the government played a crucial role in the spread and upgradation of higher education. Till the late 80’s most nations including India almost fully supported university education. During the third, fourth, fifth and sixth plan periods, the allocation for higher education ranged from 15% to 25% of the total plan outlay for education. But the paradigm shift has taken place from higher education to primary education as regards funding priority for the social returns from elementary education are 25% while those from higher learning are barely one percent. The about turn in the Government policy was found to be most pronounced in the Discussion Paper on the Government subsidies in India, published by the Ministry of Finance in 1997, in which higher education was regarded as a non-merit service meaning thereby that it did not qualify for Government subsidies (Barooah, 1999). In the ninth plan, UGC reserved 1/3rd of the sanctioned grant to be released on the basis of the performance of the universities (Patel, 2002). With the shift in the Government policy on higher education and the official task of progressively reducing the fiscal deficit, budgetary resources for tertiary education are hard to come by. The educational statistics reveal that total expenditure on education has doubled during the last thirty years and the percentages of total plan expenditure on education have gradually declined. The per capita expenditure on education in India is one of the lowest in the world. The gap is widening because of less and less investment in education.
The expenditure on education decreased from 7.86% to the total plan outlay in the first five year plan to 2.90% in the ninth five year plan. The expenditure on higher education was nine per cent of the total plan outlay for education in the first five year plan, which rose to 25% in the fourth five year plan but fell to 9.5% in the ninth five year plan. In 1951-52 it was 0.65% of GDP, which rose to 3.40% in 1966-67. Presently, it has fluctuated to woeful 2.2%. The honoring of the commitment by the Government of India to raise it to 6% of GDP is simply inconceivable in view of the politico-economic considerations. In contrast, the student enrolment in the institutions of higher learning is increasing phenomenally. For example, it rose from 50,07,000 in 1993-94 to 88,21095 in 2001-02. But the financial input from the Centre as well as the states is decreasing progressively. It is a sad commentary on the government attitude to education that whenever a cut in Government expenditure is contemplated \, the axe falls on education first. The financial health of the universities suffers from the inadequacy of the government grants coupled with delays in the assessment, sanction and release of the grants. The serious under funding of higher education has left the universities to fend for themselves. The universities in the backward and remote areas are hit hardest by the resource crunch.

In the fifth five year plan, the amount of plan grants stood at 52% of the total resources disbursed by UGC and the amount of non-plan grants stood at 48%. In the eighth and ninth plan periods, the amounts of plan grants stood at 35% and 34% respectively. In the case of non-plan resources, the figures stood at 65% and 66% in the eighth and ninth plan periods respectively. In the tenth plan period, Rs. 355.73 crore is allocated to the Central universities for development expenditure against the estimated block grants of Rs. 3500.00 crore. The development grants are about 10% of the block grants. Thus the plan grant declined and the non-plan grant increased, affecting the development expenditure (patel, 2002).
Table 1.19 : Budget Expenditure on the Primary, the Secondary, the Technical and the Higher Education in India (Expenditure Incurred by Departments of Education)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>ELEMENTARY (PRIMARY)</th>
<th>SECONDARY</th>
<th>TECHNICAL</th>
<th>HIGHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-91</td>
<td>7955.5</td>
<td>5531.1</td>
<td>753.0</td>
<td>2311.9</td>
</tr>
<tr>
<td>1991-92</td>
<td>8684.3 (9.16)</td>
<td>6198.8 (12.07)</td>
<td>809.5 (7.50)</td>
<td>2443.4 (5.69)</td>
</tr>
<tr>
<td>1992-93</td>
<td>9477.3 (9.13)</td>
<td>7178.1 (15.80)</td>
<td>907.1 (12.06)</td>
<td>2700.0 (10.50)</td>
</tr>
<tr>
<td>1993-94</td>
<td>10821.8 (14.19)</td>
<td>7768.6 (8.23)</td>
<td>1017.7 (12.19)</td>
<td>3103.6 (14.95)</td>
</tr>
<tr>
<td>1994-95</td>
<td>12638 (16.79)</td>
<td>9049.5 (16.49)</td>
<td>1189.3 (16.86)</td>
<td>3525.3 (13.59)</td>
</tr>
<tr>
<td>1995-96</td>
<td>15217.8 (20.40)</td>
<td>1034.4 (14.31)</td>
<td>1290.3 (8.49)</td>
<td>3871.3 (9.81)</td>
</tr>
<tr>
<td>1996-97</td>
<td>17850.5 (17.30)</td>
<td>11735.8 (13.45)</td>
<td>1450.0 (12.38)</td>
<td>4287.9 (10.76)</td>
</tr>
<tr>
<td>1997-98</td>
<td>20391.5 (14.23)</td>
<td>13262.4 (13.01)</td>
<td>1622.6 (11.90)</td>
<td>4859 (13.32)</td>
</tr>
<tr>
<td>1998-99</td>
<td>25114.5 (23.16)</td>
<td>16721.5 (26.08)</td>
<td>2073.1 (27.76)</td>
<td>6116.8 (2588)</td>
</tr>
<tr>
<td>1999-2000</td>
<td>31.087.0 (23.78)</td>
<td>19995.7 (19.58)</td>
<td>2544.5 (22.74)</td>
<td>8189.5 (33.89)</td>
</tr>
</tbody>
</table>

Source: Jandhyala B G Tilak, “Public Subsidies in Education in India”, Economic and Political Weekly, January 24, 2004, p347.

Table 1.19 indicates that expenditure in higher education of primary was 7955.5, secondary 5531.1, technical was 753.0 and the higher was 2311.9 in 1990-91. Higher education of primary was 31087.0, secondary 19995.7, technical was 2544.5 and the higher was 8189.5 in 1999-2000. It shows better increasement.
Table 1.19: Student Enrollment in Universities/Affiliated Colleges in India:

<table>
<thead>
<tr>
<th>SR. NO.</th>
<th>STAGE</th>
<th>UNIV. DEPTTS / UNIV. COLLEGES</th>
<th>AFFILIATED COLLEGES</th>
<th>TOTAL</th>
<th>% TO GRAND TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Graduate</td>
<td>7,90,182</td>
<td>70,72,406</td>
<td>76,62,588</td>
<td>89%</td>
</tr>
<tr>
<td>02</td>
<td>Postgraduate</td>
<td>2,77,427</td>
<td>5,38,908</td>
<td>8,16,335</td>
<td>9%</td>
</tr>
<tr>
<td>03</td>
<td>Research</td>
<td>55,158</td>
<td>5,358</td>
<td>60,156</td>
<td>0.07%</td>
</tr>
<tr>
<td>04</td>
<td>Diploma/Certificate</td>
<td>43,381</td>
<td>38,725</td>
<td>81,656</td>
<td>0.09%</td>
</tr>
<tr>
<td></td>
<td>Grand Total</td>
<td>11,66,148</td>
<td>76,54,947</td>
<td>88,21,095</td>
<td></td>
</tr>
</tbody>
</table>

Source: GOUP: UGC.co.in

Table 1.19: it indicated that in 2001-02 the number of enrollment of graduate student was 790,182 in university. Deptt./ Colleges, 7072,406 in affiliated colleges and total was 7662588 and percentage was 89%. Post. graduate student was 277427 in university. Deptt./ Colleges, 538908 in affiliated colleges and total was 816335 and percentage was 9%. Research student was 55158 in university. Deptt./ Colleges, 5358 in affiliated colleges and total was 60156 and percentage was 0.07%. Diploma student was 43381 in university. Deptt./ Colleges, 38725 in affiliated colleges and total was 81656 and percentage was 0.09%.
1.9 CONCLUSION:

The challenges are many universities that should have been the light of the world and Alma matter of rising generations are for removed from this ideal. The breakdown of the ethical fabric of education seems to spread its tentacles in all directions. Research is being focused on the individuals than on the total functioning of institutions. We are yet to resurrect the basic effectiveness and efficiency in our system.

To observe, the privatization and globalization of Indian higher education seems inevitable in the present century increasing use of information & communication technologies in higher education many easily globalize it. So we should keep ourselves ready for the establishment of the private universities and the internationalization of Higher education.

The Universities as a whole are passing through a period of financial crisis today. The resources available to them are much less than sufficient to provide for continuing growth in enrolments, increased needs for better infrastructural facilities, modernization of teaching methods and high rates of inflation. All available evidences demonstrate that due to inadequate funding by the government, the number of universities suffering from perpetual financial deficits has not only been increasing but the phenomenon of ‘deficit disease’ is becoming chronic and acquiring unmanageable proportions. What does it signal? Obviously, the resource constraints of the universities would constitute a major drag on qualitative and quantitative development of higher education; and if the performance and accountability of the system to the society would be adversely affected. This is precisely what has been happening in the recent past. The following are the main attributable reasons.

There are three major deficiencies in the prevailing approach of funding universities which need to be highlighted. First, there is inadequacy of finances available to universities and colleges. Despite the substantial contributions which UGC and the state governments are making towards the financing of higher education and research, the finances of universities and colleges are inadequate
as they have not increased commensurate with the rise in enrolment, rate of inflation and increased requirements from modernization and diversification. The absence of valid criteria or scientific norms is the main reason for under-estimation of resource requirements.

Second, the existing arrangements under which the governmental agencies are financing universities and colleges have quite often given rise to diverse and dilatory practices and procedures between the different levels of government, so much so that the attention of the government get diverted from ensuring a sound financial base for the instructions of higher learning. A significant fact is that development schemes of a majority of universities are financed on matching basis by UGC, and the State; and the implementation of most of these new schemes suffer because of the lack of adequate support from the states.

Third, the priorities within higher education have been somewhat distorted. In our attempt to equalize educational opportunities, too the attention has been paid to acuity and the promotion of excellence in higher education and research. As a result, the quality and relevance of higher education has been steadily deteriorating and mismatch between education and jobs is growing. This therefore, raises the basis question of locative efficiency of public funds.

Education plays a crucial role in the economic development of a nation. If a country wants a rapid economic development it must have a rapid accumulation of physical reproducible capital along with a stock of strategic manpower, which would both create and work on that reproducible capital. In creating this strategic manpower of human resources, education is the key input.

Chorological developments of the decade development of higher education in India. The last decade of the last century began with the world famous Jomtien conference on education for all. Almost all the countries of the world met in Jomtien in 1990 under the umbrella of major international organizations, including the World Bank UNESCO, UNICEF, UNFPA etc. and proclaimed their commitment for fulfilling their basic goals in basis education,
which had remained unfulfilled for a long time. A major positive outcome of the Jomtien conference was that basic education received serious attention of the national governments and the international community.

This is good in itself. But at the same time this produced an undesirable effect on other levels of education.

It was widely felt that basic education goals could be reached only if the public attention is diverted rather completely away from secondary and more particularly higher education. Many public policy and plan documents including economic surveys, annual budget speeches of the finance minister debates and discussion on policy issues in education ignored higher educational together and got confined to literary & primary education. Given the national or more particularly international commitment incase of elementary education, the government felt that there was no way of continuing to support higher education at the same level as it used to do earlier. To justify its stand the government declared “the higher education system in the country is now sufficiently developed to meet the national’s requirements.”

In India over the last several years there has been a phenomenal increase in enrolment. The number of Universities 293, at present there are 18 central Universities 60 Deemed Universities (as on date May 2002) 178 state Universities and 130150 colleges. There were 88 lack students and 4,27,000 teachers in Universities and colleges during 2000-02 with a total student enrolment of nearly 7.5 million students. It may however be pointed out that while India has the second largest system of Higher Education next only the USA the total aged between 17 & 23 years while is much below the average of developed countries 47% & less than that of developing country which is 7%. Yet, the enormity of this structure pales if we consider that 8% of the related age group avail themselves higher education.

The higher educational comprise of both the institutions established and run by the governments and by the private parties. The private institution include both which are receiving grant-aid and which are fully unaided. Though the
government assistance covers the salary component of both the government and aided private institutions, they (i.e. institutions) do not have adequate and regular inflows from other sources to procure and possess the requisite infrastructure to impart quality education. The recent policy decision of many a number of state governments to reduce 10-15% budgetary allocations annually to these institutions is aggravating the problems of these educational institutions. The problems of unaided private institutions are much more. Most of the institutions are, therefore, borrowing from financial institutions are not in a position to service their debts.

From the above analysis, it is obvious that the general higher educational institutions deserve and need the continuation of the government budgetary support. This is necessary due to the massive economic backwardness prevailed in the country. Because, the students are unable to pay the cost-based fee. Further, the cost-based fee pattern results in the denying of the opportunities to the students (from economically poor families) from pursuing their higher education. In the interest of the students and the overall development of the country, it is necessary for the government to continue to support the general higher education.
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CHAPTER – 2

CONCEPTUAL FRAMEWORK OF COST BEHAVIOUR AND PRODUCTIVITY

2.1 Introduction of Cost

2.2 Cost Classification – Cost Behavior Pattern in General Cost Behavior in Universities.

2.3 Role of Cost in Financial Efficiency

2.4 Cost Reduction Techniques for University.

2.5 Concept of Productivity

2.6 Approaches of Productivity.

2.7 Measurement of Productivity.

2.8 Partial Productivity and Total Factoral Productivity Relationship Between Cost Effectiveness and Productivity.

2.9 Conclusion
2.1 INTRODUCTION OF COST

Cost is the amount of resources given up in exchange for some goods or services. The resources given up are money or money’s equivalent expressed in monetary units.

ICWA defines cost as “the amount of expenditure (actual or notional) incurred on, or attributable to a specified thing or activity”. The Committee on Cost Concepts and Standards of the American Accounting Association defines cost as cost as “cost is a foregoing, measured in monetary terms, incurred or potentially to be incurred to achieve a specific objective.”

This activity of a firm may be the manufacture of a product or the rendering of a service which involves expenditure under various heads, e.g., materials, labour, other expenses, etc. a manufacturing organization is interested in ascertaining the cost per unit of the product manufactured while an organization rendering service, e.g., transport undertaking, canteen, electricity company. Municipality etc., is interested in ascertaining the costs of the service it renders. In its simplest form. The cost per unit is arrived at by dividing the total expenditure incurred by the total units produced or the quantum of service rendered. But this method is applicable if the manufacturer produces only one product. If the manufacturer produces more than one product, it become imperative to split up the total expenditure between the various products so that the cost of each product can be ascertained separately. Even if only one product is manufactured, it may be necessary to analyses the cost per unit of each item of expenditure that goes to make up the total cost. The problem becomes more complicated where a multiplicity of products is produced and it is necessary to analyses the cost per unit of each product into various items of expenditures that make up the total cost.

The objective with which costs are compiled is always important. For example, if the purpose is to fix the selling price, all items of expenditure, production, administrative and selling will be included. But for valuation of
inventories, cost generally means only the production cost. Also, if the objective is to measure efficiency, cost will have to be compiled differently than if the purpose is merely Tuvalu inventories or quote prices. Thus, the term “cost” has different denotations.

It is necessary to specify the exact meaning of “cost”. When the term is used specifically, it is modified with such terms as prime cost, fixed cost, sunk cost, etc. each description implies a certain characteristic, which is helpful in analyzing the cost. It helps cost accounting in achieving its three basic objectives namely – cost ascertainment, cost control and cost presentation.

A cost must always be studied in relation to its purpose and conditions. Different costs may be ascertained for different purposes and under different condition. Work – in – progress is valued at factory cost, while stock of finished goods may be valued at offices cost. Even if the purpose of the study of cost is the same, different conditions may lead to variation in cost. The per unit of a product is sure to vary with an increase in the volume of output since the amount of fixed expenses to be borne by each unit of output decreases.

It is also important to note here that there is no such thing as an exact cost or true cost because on figure of cost is true in all circumstances and for all purposes. Most of the costing information is based on estimates; for example, the amount of overheads is generally estimated in advance; it is distributed over cost units, again on an estimated basis using different methods. Many items of cost of production are handled in an optional manner, which may give different costs for the same product without going against the accepted principles in any way. Depreciation is one such item, the amount of which will vary in accordance with the method of depreciation being used. Thus, to arrive at an absolutely correct cost may be quite difficult unless one waits for a long time by which time the costing information may lose all its value.
2.2 CLASSIFICATION OF COSTS

The different bases of cost classification are:

(1) By time (historical, pre-determined).

(2) By nature or elements (material, labour and overhead).

(3) By degree of tractability to the product (direct, indirect).

(4) Association with the product (product, period).

(5) Changes in activity or volume (fixed, variable, semi-variable).

(6) By function (manufacturing, administrative, selling, research and development, pre-production).

(7) Relationship with accounting period (Capital, revenue).

(8) Controllability (Controllable, non-controllable).

(9) Cost for analytical and decision-making purposes (opportunity, sunk, differential, joint, common, imputed, out-of-pocket, marginal, uniform, replacement).

(10) Others (conversion, traceable, normal, avoidable, unavoidable, total).

Classification on the basis of time:

(a) Historical Costs: These costs are ascertained after they are incurred. Such costs are available only when the production of a particular thing has already been done. They are objective in nature and can be certified with reference to actual operations.

(b) Pre-determined Costs: These costs are calculated before they are incurred on the basis of a specification of all factors affecting cost. Such costs may be;
(i) Estimated Costs: Costs are estimated before goods are produced; these are naturally less accurate than standards.

(ii) Standard Costs: This is a particular concept and technique. This method involves;

(a) Setting up predetermined standards for each element of cost and each product;

(b) Comparison for actual with standard;

(c) Pin-pointing the causes of such variances and taking remedial action.

Obviously, standard costs, though pre-determined, are arrived with much greater care than estimated costs.

By nature or elements:

There are three broad elements of costs:

(1) Material: The substance from which the product is made is known as material. It can be direct as well as indirect.

Direct material: It refers to those materials, which become a major part of the finished product and can be easily traceable to the units. Direct materials include:

(i) All materials specifically purchased for a particular job/process.

(ii) All material acquired and latter requisitioned from stores.

(iii) Components purchased or produced.

(iv) Primary packing materials.

(v) Material passing from one process to another.

Indirect material:

All material which is used for purposes ancillary to production and which can not be conveniently assigned to specific physical units is termed as indirect
materials. Examples, oil, grease, consumable stores, printing and stationary material etc,

**Labour**:  
Labor cost can be classified into direct labour and indirect labour

**Direct labour**:  
It is defined as the wages paid to workers who are engaged in the production process whose time can be conveniently and economically traceable to units of pro-ducts. For example, wages paid to compositors in a printing press, to workers in the foundry in cast iron works etc.

**Indirect labor**:  
Labour employed for the purpose of carrying and tasks incidental to goods or services provided, is indirect labour. It cannot be practically traced to specific units of output. Examples, wages of storekeepers, foreman, time-keepers, supervisors, inspectors etc.

**Expenses**:  
Expenses may be direct or indirect.

**Direct expenses**: These expenses are incurred on a specific cost unit and identifiable with the cost unit. Examples are cost of special layout, design or drawings, hiring of a particular toll or equipment for a job fees paid to consultants in connection with a job etc.

**Indirect expenses**: These are expenses which cannot be directly, conveniently and wholly allocated to cost center or cost units. Examples are rent, rates and taxes, insurance, power, lighting and heating, depreciation etc.
It is to be noted that the term overheads has a wider meaning than the term indirect expenses. Overheads include the cost of indirect material, indirect labour and indirect expenses. Overheads may be classified as (a) production or manufacturing overheads, (b) administration overheads, (c) selling overheads, and (d) distribution overheads.

The following chart can illustrate the various elements of cost:

<table>
<thead>
<tr>
<th>Elements of cost</th>
<th>Material</th>
<th>Labour</th>
<th>Other expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>Indirect</td>
<td>Direct</td>
<td>Indirect</td>
</tr>
<tr>
<td>Production/Manufacturing Overheads</td>
<td>Administration overheads</td>
<td>Selling overheads</td>
<td>Distribution overheads</td>
</tr>
</tbody>
</table>

By Degree of Trace ability to the Products:

Cost can be distinguished as direct and indirect.

Costs which can be easily traceable to a product or same specific activity are called direct costs. Indirect costs are difficult to trace to a single product or it is uneconomic to do so. They are common to several products, e.g. salary of a factory manager.

Costs may be direct or indirect with respect to a particular division or department. For example, all the costs incurred in the Power House are indirect as far as the main product is concerned but as regards the Power House itself, the fuel cost or supervisory salaries are direct. It is necessary to know the purpose for which cost is being ascertained and whether it is being associated with a product, department or same a activity.
Indirect costs have to be apportioned to different products, if appropriate measurement techniques are not available. These may involve some formula or base, which may not be totally correct or exact,

**Association with the Product:**

Cost can be classified as product costs and period costs.

**Product costs:** Product costs are those, which are traceable to the product and included in inventory values. In a manufacturing concern it comprises the cost of direct materials, direct labour and manufacturing overheads. Product cost is a full factory cost. Product costs are used for valuing inventories, which are shown in the Balance Sheet as asset till they are sold. The product cost of goods sold is transferred to the cost of goods sold account.

**Period costs:** Period costs are incurred on the basis of time such as rent, salaries, etc. include many selling and administrative costs essential to keep the business running. Though they are necessary to generate revenue, they are not associated with production, therefore, they cannot be assigned to a product. They are charged to the period in which they are incurred and are treated as expenses.

Selling and administrative costs are treated as period costs for the following reasons:

(i) Most of these expenses are fixed in nature.

(ii) It is difficult to apportion these costs to products equitably.

(iii) It is difficult to determine the relationship between such cost and the Product.

(iv) The benefits accruing from these expenses cannot be easily established.
The net income of a concern is influenced by both product and period costs. Product costs are included in the cost of the product and do not affect income till the product is sold. Period costs are charged to the period in which they are incurred.

**By Changes in Activity or Volume:**

Costs can be classified as fixed, variable and mixed cost.

**Fixed costs:**

The Chartered institute of Management Accountants London, defines fixed cost as a cost which tends to be unaffected by variations in volume of output.

Fixed costs depend mainly on the efflux ion of time and do not vary directly with volume or rate of output”.

These costs are incurred so that physical and human facilities necessary for business operations can be provided. These costs arise due to contractual obligations and management decisions. They arise with the passage of time and not with production and are expressed in terms of time. Examples are rent, property taxes, insurance, supervisors’ salaries etc.

It is wrong to say that fixed costs never change. These costs may vary depending on the circumstances. The term fixed refers to non-variability related to the relevant range. Fixed cost can be classified into the following categories for the purpose of analysis:

(a) **Committed Costs:**

These costs are incurred to maintain certain facilities and cannot be quickly eliminated. The management has little or no discretion in this cost, e.g., rent, insurance etc.
(b) **Policy and Managed Costs:**

Policy costs are incurred for implementing particular management policies such as executive development, housing, etc. such costs are often discretionary. Managed Costs are incurred to ensure the operating existence of the company e.g., staff services.

(c) **Discretionary Costs:**

These are not related to the operations and can be controlled by the management. These costs result from special policy decisions, new researches., and can be eliminated or reduced to a desirable level at the discretion of the management.

(d) **Step Costs:**

Such costs are constant for a given level of output and then increases by a fixed amount at a higher level of output.

(e) **Variable cost :**

Variable costs are those costs that vary directly and proportionately with the output e.g. direct materials, direct labour. It should be kept in mind that the variable cost per unit is constant but the total cost changes corresponding to the levels of output. It is always expressed in terms of units, not in terms of time.

Management decisions can influence the cost behavior patterns. The concept of variability is relative. If the conditions upon which variability was determined changes, the variability will have to be determined again.

(f) **Semi-fixed or Semi-variable costs:**

Such costs contained fixed and variable elements. They fluctuate with volume and because of the fixed element; they do not change in direct proportion to output. Semi-variable or semi-fixed costs change in the same direction as that of the output but not in the same proportion. Depreciation
is an example; for two-shift working the total depreciation may be only 50% more than that for single shift working. They may change with comparatively small changes in output but not in the same proportion.

**Functional Classification of Costs:**

A company performs a number of functions. Functional costs may be classified as follows:

(a) **Manufacturing/production costs:**

It is the cost of operating the manufacturing division of an undertaking. It includes the cost of direct materials, direct labour, direct expenses, packing (primary) cost and all overheads expenses relating to production.

(b) **Administration costs:**

They are indirect and covers all expenditure incurred in formulating the policy, directing the organization and controlling the operation of a concern, which is not related to research, development, production, distribution or selling functions.

(c) **Selling and distribution costs:**

Selling cost is the cost of seeking to create and stimulate demand e.g. advertisements, market research etc. Distribution cost is the expenditure incurred which begins with making the package produced available for dispatch and ends with making the reconditioned packages available for re-use e.g. warehousing, cartage articles to central or local storage. Expenditure incurred in moving articles to and from prospective customers as in the case of goods on sale or return basis is also distribution cost.
(d) **Research and development costs**:

They include the cost of discovering new ideas, processes, products by experiment and implementing such results on a commercial basis.

(e) **Pre-production cost**:

When a new factory is started or when a new product is introduced, certain expenses are incurred. There are trial runs. Such costs are termed pre-production costs and treated as deferred revenue expenditure. They are charged to the cost of future production.

**Relationships with Accounting Period:**

Costs can be capital and revenue cost.

Capital expenditure provides benefit to future period and is classified as an asset. On the other hand, revenue expenditure benefits only the current period and is treated as an expense. As and when an asset is written off, capital expenses to that extent becomes cost. Only when capital and revenue is properly differentiated, the income of a particular period can be correctly determined. It is not possible to distinguish between the two under all circumstances.

**Controllability:**

The C.I.M.A. defines controllable cost as “a cost, which can be influenced by the action of a specified member of an undertaking” and a no controllable cost as “a cost, which cannot be influenced by the action of a specified member of an undertaking”.

The difference between the terms is very important for the purpose of cost accounting, cost control and responsibility accounting.
A controllable cost can be controlled by a person at a given organizational level. Controllable cost is not totally controllable. Some costs are partly controllable by one person and partly by another e.g., maintenance cost can be controlled by both the production and maintenance manager. The term “Controllable costs” is often used to mean variable costs and non-controllable costs as fixed.

Belkaoni has mentioned the following fallacies about controllable costs:

(i) All variable costs are controllable and fixed are not.

(ii) All direct costs are controllable and indirect costs are not.

(iii) All long-term costs are controllable.

Sometimes the time factor and the decision-making authority can make a cost controllable. If the time period is long enough, all costs can be controlled. Proper delegation helps in establishing clear responsibility and controllability. But all costs can be controlled by one or another person. The authority and responsibility of cost control is delegated to different levels, though the managing director is responsible for all the costs.

**Costs for Analytical and Decision making purposes**

(a) Opportunity costs: Opportunity cost is the cost of selecting one course of action and the losing of other opportunities to carry out that course of action. It is the amount that can be received if the asset is utilized in its next best alternative.

   Edwards, Herman son and Salmon son define it as “the benefits lost by rejecting the best competing alternative to the one chosen. The benefit lost is usually the net earnings or profit that might have been earned from the rejected alternative.”
Example: Capital is invested in plant and machinery. It cannot be now invested in shares or debentures. The loss of interest and dividend that would be earned is the opportunity cost. Another example is when the owner of a business foregoes the opportunity to employ himself elsewhere.

Opportunity costs are not recorded in the books. It is important in decision making and comparing alternatives.

(b) Sunk costs:

A sunk cost is one that has already been incurred and cannot be avoided by decisions taken in the future. As it refers to past costs, it is called unavoidable cost. The National Association of Accountants (USA) defines a sunk cost as “an expenditure for equipment or productive resources which has no economic relevance to the present decision making process”. This cost is not useful for decision making, as all past costs are irrelevant.

It has also been defined as the difference between the purchase price of an asset and its salvage value.

(c) Differential cost:

Differential cost has been defined as “the increase or decrease in total costs resulting out of:

(a) Producing and distributing a few more or few less of products;
(b) A change in the method of production/distribution;
(c) An addition or deletion of a product or a territory; and
(d) The selection of an additional sales channel”.

The differential cost between any two levels of production is the difference between the marginal costs at these two levels and the increase or decrease in fixed costs as they are determined for a particular purpose and under specific circumstances.

Incremental cost measures the addition in unit cost for an addition in output. This cost need not be the same at all levels of production. It is usually expressed as a cost per unit whereas the differential cost is measured in total. The former applies to increase in production and is restricted to the cost only, whereas the differential cost has a comprehensive meaning and application in the sense that it denotes both increase or decrease.

Differential costs are useful in planning and decision-making and helps to choose the best alternative. It helps management to know the additional profit that would be earned if idle capacity is used or when additional investments are made.

(d) Joint costs:

The processing of a single raw material results in two or more different products simultaneously. The joint products are not identifiable as different types of product until a certain stage of production known as the split-off point is reached. Joint costs are the costs incurred up to the point of separation. One product may be of major importance and others of minor importance, which are called by-products.

**Bierman and Dickman define it as:**

“Joint Costs relate to a situation in which the factors of production by their basic nature result in two or more products. The jointness results from there being more than one product, and these multi-products are the result of the methods of production or the nature of raw material and not of a decision by management to produce both”.
The National Association of Accountants defines it as follows:

“Joint costs can be apportioned to different products only by adopting a suitable basis of apportionment.

(e) **Common costs:**

Common costs are those costs which are incurred for more than one product, job, territory or any other specific costing object. They are not easily related with individual products and hence are generally apportioned.

There is no clear relation between the cost incurred and the products. A cost may be common to other objects and direct to one object.

It should be kept in mind that management decisions influence the incurrence of common costs e.g. Rent of the factory is a common cost to all departments located in factory.

(f) **Imputed costs:**

Some costs are not incurred and are useful while taking decision pertaining to a particular situation. These costs are known as imputed or notional costs and they not enter into traditional accounting systems.

**Examples:** Interest on internally generated funds, salaries of owners of proprietorship or partnership, notional rent etc.

(g) **Out-of-pocket costs:**

Out-of-pocket costs signify the cash outlay required for an activity. The management would like to know that the income from a particular project wills at least cover the expenditure for the project. Acceptance of a special order requires to be considered, as additional costs need not be
incurred if the special order is not accepted. Hence the importance of out-of-pocket costs.

(h) **Uniform costs:**

They are not distinct costs as such. Uniform costing signifies common costing principles and procedures adopted by a number of firms. They are useful in interim comparison.

(i) **Marginal costs:**

It is the aggregate of variable costs, i.e., prime cost plus variable overheads. Thus costs are classified as fixed and variable.

(j) **Replacement costs:**

This is the cost of replacing an asset at current market values e.g. when the cost of replacing an asset is considered, it means the cost of purchasing the asset at the current market price is important and not the cost at which it was purchased.

**Others:**

(i) **Conversion cost:**

It is the cost of a finished product or work-in-progress comprising direct labour and manufacturing overhead. It is production cost less the cost of raw material but including the gains and losses in weight or volume of direct material arising due to production.

(ii) **Normal cost:**

This is the cost, which is normally incurred at a given level of output in the conditions in which that level of output is achieved.
(iii) **Traceable cost:**

It is the cost, which can be easily associated with a product, process or department.

(iv) **Avoidable cost:**

Avoidable costs are those costs, which under the present conditions need not have been incurred.

**Example:** (a) spoilage in excess of normal limit (b) unfavorable cost variances, which could have been controlled.

(v) **Unavoidable costs:**

Unavoidable costs are those costs, which under the present conditions must be incurred.

(vi) **Total cost:**

This is the sum of all costs associated to a particular unit, or process, or department or batch or the entire concern. It may also mean the sum total of material, labour & overhead. The term total cost however, is not precise; it needs to be made precise by using terms that indicate the elements of cost included.

(vii) **Value added:**

Strictly, it is not cost. It means the selling price of the product/service less the cost of materials used in the product or the service. Often depreciation is also deducted for ascertaining “value added”.
2.3 ROLE OF COST IN FINANCIAL EFFICIENCY

A technique introduced by the U.S. Department of Defense and adopted by management in the private sector for analyzing specific expenditures to determine whether the same expenditure could be used more effectively in another direction or so ascertain whether the expenditure can be reduced without negatively affecting the expected benefit.

Financial effectiveness regarding to university is related to raising the income through various resources & to control the expenditure in order to sustain and development the university besides it to keep the account properly to audit it & to produce this account before higher authority are also the part & parcel of F.M.

Following Points are included in the study of financial efficiency:

1. To make efforts to get more income through the traditional resources.
2. To check the possibilities for the other resources.
3. To get more donation by encouraging the donors.
4. To utilized the income in a proper way & keep the Account properly.
5. To honour the donors & to give the publicity of such functions.
6. To try to get more grant from U.G.C. & other agencies.
7. To use the fund for the given aims & to full fill the conditions set by the donor agencies.
8. To get loans from the banks, only if the condition become inevitable.
9. To keep the Accountant properly to audit it & produce it before higher authorities.
2.4 COST REDUCTION TECHNIQUE FOR UNIVERSITY:

Perhaps the greatest immediate value of productivity measurement is its potential for contributing to improvements in productivity and hence, saving of human resources and money. They not only provide a variety of condition but the measures of productivity may also be used as a follow up device to determine how well the goals of management improvements are actually being achieved.

2.5 CONCEPT OF PRODUCTIVITY:

Productivity consciousness has now acquired a worldwide momentum culminating in the declaration of 1942 A year of productivity. The spontaneous upsurge of interest in productivity is largely a post war phenomenon, although the basic concept of productivity was enunciated by classical economist (Adam Smith – David Recardo and J S Mill) in the 18th and 18th centuries in the form of “Low of diminishing returns” to all resources. In the 19th century, Fredrick W. Taylor’s thesis in his “Task Study” was that Human work can be made infinitely more productive not by “working harder” but by “working smarter” Reasons for upsurge of interests will be discussed presently.

During the 19th 30 years or so “Productivity measurement” has emerge as a distinct and separate branch of study in economics and management. A number of studies employing highly sophisticated mathematical and statistical techniques and tools of analysis have been conducted to measure total input and factor productivity. Many of these studies have been published as monographs or articles in learned and prestigious journals and periodicals in India and abroad. Specialized agencies of the United States (US) like the International Labour Organization (ILD), affiliated agencies of regional organizations like the European productivity Agency (EPA). (1) Have published comprehensive details for measurement of plant level and overall measurement of productivity. In India,
National Productivity Council (NPC) was established in 1958. The Asian Productivity Organization (APO) with headquarter in Tokyo was established in 1961.

A study on productivity of an economy of an industry has been great economic value. The study helps in avoiding wastage of resources, both men and material. In this way “it leads to the production of maximum volume of socially desirable goods at the maximum possible real costs.” (2)

“Productivity means the economic yield from.

Each factor of production (land, human capital and management)

Each input (raw material, fuel time &knowledge)

An overall yield of the joint factors and resources enumerated above in combination.” (3)

Productivity is at the heart of economic growth and development. It is focal point of current public interest in business and economic matters all over the world. All working people, farmer, a carpenter, a blacksmith, a technician, a businessmen, an engineer, a nurse or doctor, any one, is interested in productivity. When any person strives to make a better living for himself and his family, he realizes more on productivity than on hard work.

Productivity is the relationship between the output generated by a production or service system and the input provided to create this output. Higher productivity means accomplishing more with the same amount of resources or achieving higher output in terms of volume and quality for the same input.

The term productivity has become so popular that the users do not bother about its precise definition. The elusive concept is surrounded by enormous confusion inspite of volume of literature on the subject people use the same term but mean different things. In this connection the reading of Joseph Prokopenko are very enlightening when he said that he attached, “The ILO has for many
years promoted in advanced view of productivity which refers to the effective and efficient utilization of all resources, capital, land, material, information and cime in addition to labour. In promoting such views one must combat some common misunderstandings about productivity.” (4) To overcome these difficulties, following points must be made clear:

   It is not a measure of production quantity. It is relationship of output to input increasing production output or may not improve productivity, depending on the inputs used to achieve the production increase.

   Productivity is not only labour efficiency or labour productivity – although labour productivity statistics are still useful for policy-making data.

   It is not to measure of profitability. It indicates the efficiency of operations and thereby suggest their profitability, but inefficient operations can occasionally be profitable if the product enjoys a favoured market status.

   It is not a guaranteed way to reduce inflation it may be moderating factor but it is only one among many economic factors that determine the general price trends.

   it is not a technique to make worker work harder. It is an approach that encourages workers to work smarter.

   it is not cost cutting always improves productivity, when done indiscriminately, it can make matters worse in the long term.

   There is one more misunderstanding confusing productivity with efficiency. Efficiency means producing high quality goods in the shortest possible time. But we have to consider if these goods are needed.

   In short, productivity is just a ratio of output to input. Productivity could be considered as a comprehensive measure of how organizations satisfy the following criteria.
Objective – the degree to which they are achieved

Efficiency – how effectively resources are used to generate useful output.

Effectiveness – what is achieved compared with what is possible

Comparability – how productivity performance is recorded over time.

Productivity has become such a buzz-word these days. The first time the word ‘productivity’ was mentioned in an article by Quesnay in the year 1876. However, later in 1883, little defined it as the faculty to produce. It was only in the early twentieth century, that the word acquired in more precise meaning as a relationship between output and means employed to produce that output.

Looking for the word productivity in Webster’s new world dictionary, one finds that it is given with the word “productivity” as a noun of the and it is treated as the same of the other noun from namely productiveness. The attributes and functional aspects of a product, which means something produced by nature or made by human industry or art can be shown as below covering its range of verbal proper definition in the domain of economics.

Produce – To create anything having exchange value.

Production – The act or process of production, the addition of economic value by producing goods and services.

Productive –

(A) of or engaged in the addition of economic value of the producing of goods and services.

(B) Process marked by abundant production or effective results.

Productivity – Productiveness – a noun of productive.

So, Productivity defined as the noun of producing in above, implies also a rate or ratio in its use in economics apart from an idea of quality or capability.
MEANING OF PRODUCTIVITY:

G.C. Beri observe, “Productivity is the ratio between the production of a given commodity measured by volume and one or more of the corresponding input factors also measured by volume.” (5) It is evident that this concept includes many different kinds of productivity according to whether one or another of several different factors is considered. According to BAL Krishna, “Productivity is broadly used to express the overall efficiency of an industry”. Here, productivity concept is relation between efficiency and effectiveness. Efficiency, as it stands, has become a watchword of organization. Until the term was used in the amals of management for displaying a comparison between two or more units.

Efficiency denotes a degree of achievement of pre-determined objectives. Basically efficiency is an input-output relationship, where in terms of input, standards of output are laid down and later compared with actual performance. Generally, the term is used in reference to organizational objectives and their degree of accomplishment. In a narrow context efficiency refers to a desired effect with the minimum of efforts, expenses or waste. Adam smith calls productivity as the current nomenclature of efficiency and specialization and target calls it “Production net.” Too often the term is viewed as the ratio between output and input, both measured in value of volume and at times it is referred to as multipronged attack on waste, optimum use of the tools of production to keep the total operating cost at the minimum and to allow the volume of production to swell up,” (6) The organization for European Economic cooperation gave the definition of productivity as “productivity is the quotient obtained by dividing outputs by one of the factors of production,” in this way it is possible to speak of productivity of capital, investment, Raw material according to whether the output being considered is in relation to capital investment and Raw material. Productivity is a combination of effectiveness and efficiency. Therefore,

\[
\text{Productivity Index} = \frac{\text{Effectiveness}}{\text{Efficiency}}
\]
A general definition is that productivity is the relationship between the output generated by a production or service systems and input provided to create this output.

“The productivity of a factory is defined as its total output divided by the hours of work required to produce it, assuming that the quality of output is constant.” (7)

“Productivity is the ratio of output produced per unit of resources consumed by the process.” (8)

Peter Drucker defines productivity as “that balance between all factors of production that will give the greatest output for the smallest effort.”

Regardless of the type of the production, economic and political system the definition of productivity remains the same. Thus, though productivity may mean different things to different people, the basic concept is always the relationship between the quantity and quality goods or services produce and quality of resources used to produce them.

In the content of planning the concept of productivity is expressed as “Optimizing or maximizing the economic utilization of all available resources, as also creating new resources for different activities, industrial, commercial, agricultural and the like in our day to day life. (9)

Finally high productivity is remarkable help in increasing national welfare, which is now universally recognized. There is no human activity that does not benefit from improved productivity. So, concept of productivity is important for individual unit as all as nation also.

Production is the process by which goods and services are created. Production is any process designed to transform a set of input elements into a specified set of output elements. “Production is the process of transforming raw materials or purchased components into finished products for sale.” Encyclopedia of Management. Hence it can be broken down into three components as follows:
Process may be manual and/or mechanical. A process is composed of a set of operations. Production is the flow of raw material through successive work points which are either men, machines or both. Flow of materials is of two main types (a) continuous; (b) in discrete batches.

The essential characteristic of a business firm is that “it buys productive resources such as land, labour, capital and intermediate goods from other entities and transforms those resources into different goods or services which it sells to its customers.” P. Graham – Managerial Economics.

Production management deals with decision making related to production processes in order to produce the goods or services according to the specifications and quality at minimum cost. Further it should meet the demand schedule also. Hence there should be a continue co-ordination between the production and sales. Production at minimum cost will improve the profitability of an organisation.

Productivity is the ratio of output to input.

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

In the words of Riggs, “Productivity is the quality or state of being productive. It is a concept that guides the management of production systems and measures its success. It is the quality that indicates how well labour, capital, materials and energy are utilized.” “In appraising an organisation’s potential or capacity for improving productivity, the manager or the analyst must examine the current operations and the current management practices with the object of trying to decide how they should function in the future.”

A cost effectiveness index reflects “how costs for the current period compare with the cost relationship established for the base period.” As already stated above, production should be at minimum cost. Productivity improvement will lead to Cost Effectiveness. In the language of Peter Drucker, “Management
should concern itself with efficiency, that is with doing better what is already being done. It should therefore focus on costs. But the entrepreneurial approach focuses on effectiveness, that is on the decision what to do. It focuses on opportunities to produce revenue, to create markets and to change the economic characteristics of existing products and markets. It asks now how do this or that? It asks: which of the products really produce extra-ordinary results? It then asks: to what results should therefore the resources and efforts of the business be allocated so as to produce extra-ordinary results rather than the ‘ordinary ones’ which is what efficiency possibly can produce.”

“Process Analysis is the act of studying the process for producing a part or a product for the purpose of developing the lowest cost, most efficient process which will yield products of acceptable quality.” Encyclopedia of Management.

Finally one should aim at not only for cost reduction but also for profit-maximisation. In the words of Peter Drucker, one should aim to manage for results.

**Productivity and Learning Curve**

Productivity is defined as “The ratio of output to input.” Men, machines, materials, capital, power, buildings and services—all these contribute to productivity. Higher productivity can be regarded as efficient use of the inputs in terms of men, machines, materials, capital, power, buildings and services etc. By using the existing resources more effectively, the standard of living of people can be increased. “Standard of living in a country is measured by the quality and extent of housing, food, clothing, education and recreation that the country’s people can provide for themselves.” Higher the productivity, higher will be the gross national product, which in turn will provide for a higher level of economic well being for the people.

<table>
<thead>
<tr>
<th>Output or Value of production</th>
<th>Input</th>
<th>or</th>
<th>Cost incurred</th>
<th>or</th>
<th>Capital employed</th>
<th>Growth</th>
</tr>
</thead>
</table>

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Productivity is the amount of output per unit of input. It may be expressed in terms of physical units or money. Thus it may be expressed in terms of output per man, or per main-hour or per machine hour. In case of money, the productivity is the value of production per rupee of cost incurred i.e. value of production divided by the cost incurred.

Productivity is not production. Production means the volume of output and it can be increased by increasing the input of labour, materials and services. Productivity increases when lesser quantities of inputs are employed for the same production. Productivity also increases when more output is turned out for the same resources. Thus increased productivity will reduce the cost per unit so that it is possible to pass on the savings to the consumer by selling the products at lower prices or to obtain the higher profits to the concern by selling the products at the same prices. If the products are sold at lower prices, it will create more demand, stimulate investment and create more employment. This higher productivity enhances the national wealth and per capita income which in turn increases the purchasing power of money and lead to higher standards of living in respect of the following:

1. Food and nutrition
2. Clothing
3. Housing including sanitation
4. Health facilities
5. Educational facilities
6. Information media
7. Energy consumption
8. Transportation

In this connection the objectives of productivity are indicated below:

1. To eliminate waste in all forms
2. To reduce costs and make items cheaper
3. To provide better standard of living to maximum number of people
4. To improve working conditions and reduce fatigue
5. To earn more revenue for the Government
6. To help the worker in earning higher wages, incentives and bonus
7. To obtain higher profits or
8. To reduce losses
9. To enable the management to get more capital
10. To enable the share-holders to get higher dividend and maximization of their wealth.

2.6 APPROACHES OF PRODUCTIVITY ANALYSIS

Productivity analysis is very effective tools for establish realistic targets and checkpoints for diagnostic activities during an organization development process, pointing to bottle-necks and barriers to performance. It’s also helpful in interfere comparisons. Proper and timely measurement by productivity is necessary. There is no use of only measurement unless analysis of results is made. H.S. Davis stated that, “measurement only take factors associated with the change of difference shown have been analyzed… factors responsible for the changes discovered can be powerful tools of economic appraisal” (18) Yet, without measurement, there can ben no certainty that progress and improvement is really being achieved, so measurement is essential.

There are some well-known methods to increase the growth in industries though total productivity change. These are stated below. (19)

The kyrosawa-structural approach: (20)

In accordance with his concept, productivity measurement in the enterprise helps to analyze the past and to plan activities. It can be used to set up an information system for monitoring operational activities.

(A) INDIVIDUAL PRODUCTIVITY:

A worker’s productivity (P W) is defined as follows:
Output

\[ P \ W = \frac{\text{Input of worker's effort}}{\text{Productivity measurement ratios are based on the structure of work hours.}} \]

\[ L_s \]

\[ T_r = \frac{L_r}{L_r} \]

Where \( L_s \) = Standard work hours (quantity produced x standard time)

\( L_r \) = total input work-hours (No. Of workers on payroll x duty hours)

Structure of work – hours

----------------------------------------- Total input work hours -----------------------------------------

---------------------------------------------------------------------------------------------------------Input work-Hours

\((L_r')\)

Charged to Supervise; Omitted Lo Work hours

Lost time (\( L_m \)) Charge to management

---------------------------------------------------------------------------------------------------------

Effective work hours Unproductive /
\( L_c \) work hours (\( L_u \))

----------------------------------------- Standard work hours (\( L_s \)) effect of worker's 

Efficiency (\( E_w \))

\[ L_e = \text{effective work hours.} \]

\[ L_r = L_r + L_o \]

\[ L_r = L_e + L_m \]

\[ L_o = \text{Work – hours omitted from this account such as work breaks mealtimes. Cleaning and maintance time, transport time.} \]
\[
\begin{align*}
L_{m} & = \text{Lost time due to supervisor or management such as breakdown and repair, shortage of defects of material or parts, lost minutes assignment to another task.} \\
le (1) & = \text{ratio of effective work hours to input work hours.} \\
Le (2) & = \text{ratio of input work hours to total input work hours.} \\
T'_{r} & = \frac{L_{s} \text{ Process efficiency}}{L'_{r}} \\
T'r & = \text{overall efficiency of labour} \\
E_{W} & = \text{workers efficiency}
\end{align*}
\]

**The meaning of above equation is as follows.**

Overall efficiency of labour = worker’s efficiency \(*\) ratio of effective work hours \(*\) ratio of input work hours = process efficiency \(*\) ratio of input work hours

**LAWLOR’S APPROACH:**

He considers productivity as a comprehensive measures of how efficiently and effectively organizations satisfy the following five aims:

- Objective
- Efficiency
- Effectiveness
- Comparability
- Trends.

**Objectives:**

It can be met when the total fund is adequate to meet the demand of the organization and to measure the degree to which its principle objective are achieved. This fund is called total earning (TE)

\[
TE = \text{Sales} - \text{material} = S - M
\]
TE serve to buy services, to pay wages and salaries and to invest in fixed capital profit & taxes.

**Efficiency:** It tells us how well actually needed output is generated from available input and indicates the use of available capital. Efficiency measurement reveals the output to input relationship and the degree of use of resources compared with the total capacity (Potential). This indicator should tell us where efficiencies lie.

\[
\frac{\text{Output}}{\text{Input}} = \frac{\text{input} + \text{Profit}}{\text{Input}} = \frac{O}{I} + \frac{P}{I}
\]

Where \( \frac{P}{I} = \) profit productivity ratio.

**Effectiveness:** Its compares present achievement with what could be done if resources where managed more effectively. This concept includes an output target achieving a new standard of performance or potential.

\[
\frac{\text{Output}}{\text{Resources consumed}} = \frac{\text{Effectiveness (What could be achieved)}}{\text{Input}}
\]

**Comparability:** It is a guide to organizational performance since productivity ratios alone tells us little without some form of comparison. Generally speaking, productivity measurement means comparisons at three level.

Comparison of present performance with a historical base performance. This does not indicate whether current performance to satisfactory only whether it is improving or deteriorating and to what extent.
Comparison of performance between the unit an individual, a job a section, a process and another. Such a measure indicates relative achievement.

Comparison of actual performance with a target. This is best, because it conceptualist attention on objectives.

**Trends:** That is the aim of achieving of progressive trends, must be associated with. A comparison between current performance and a historical base in order to identify, whither enterprise performance is moving up or down and how fast. This approach calls for at least two levels productivity measurement, within the enterprise primary and secondary, the primary level deals with total earning productiving (E) which is:

\[
E = \frac{\text{Total earning}}{\text{Conversion Cost}} = \frac{T}{C}
\]

Where conversion cost (C) = total wage and salaries (W) + total purchase service (Ps) + depreciation (K)

Thus, obtaining a high level of total earning ensure a healthy organization.

An example of the secondary level is profit productivity (Ep) which is:

\[
Ep = \frac{P}{C} = \frac{T - C}{C} = \frac{T}{C} - 1 \text{ or } Ep = E - 1
\]

Total earning productivity (E) reveals primary or overall measurement or efficiency for any kind organization. It also shoulds three more aspects conversion efficiency.

The rate at which input generates output

The quantity of input used to generate a given output.
The potential output which could be obtained from a given input, i.e. the measurement of efficiency.

Secondary productivity measurement provides the ratio of used resources to the total cost of all available resources. The total conversion cost includes two main divisions: the costs incurred when the resources are used productivity (Cd). These costs can be subdivided into productive work costs (Ce) and ancillary work cost (Ca) unused or idle resources costs (Ci) when people and equipment are wholly idle.

The relationship between these costs is shown below.

<table>
<thead>
<tr>
<th>Productive work costs (Ce)</th>
<th>Ancillary work Costs</th>
<th>Idle resources Cost (Ci)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Cd) cost</td>
<td>Processing</td>
<td>The total Conversion costs (c)</td>
</tr>
</tbody>
</table>

Thus it is possible to state resources or conversion utilization productivity as follows:

\[ \frac{Cd}{C} = \frac{Cd}{C} = \text{Time or costs incurred on productive and ancillary work.} \]

\[ C = \text{Total time (or conversion Costs) available including idle time} \]

The basic resources productivity indicator is used to relate pure productive work (Ce) to total conversion costs (C).

Thus \[ \frac{Ce}{C} = \text{time or costs incurred on purely productive work.} \]

\[ C = \text{total time or conversion costs available.} \]
Truly productive work, as distinguished from ancillary work, is what directly
adds value to material. The concept of productive work forms an important part of
productive measurement.

There are two other secondary productivity measurements; working
capital and Inventory productivity.

\[
\text{Productivity of Working capital} = \frac{\text{Total earnings}}{\text{Throughput material + conversion costs}}
\]

\[
T = \frac{T}{M + C}
\]

This equation gives total earning per unit of working capital employed or the rate
of turnover of working capital. Similar ratios could be employed using sales (S) or
profit (P) output, i.e.

\[
\frac{S}{M + C} \quad \text{and} \quad \frac{P}{M + C}
\]

The productivity of inventory (total materials, work in progress and finished
goods) is similar to working capital, but should include a carrying charge (C in V)
to cover the time the inventory has been in the systems.

\[
\text{Total earning} = \frac{T}{\text{Throughput material + caring charge}} \quad \frac{T}{M + C \text{ in } V}
\]

A mere conventional way of measuring the productivity of inventory is the rate of
stock turnover which is,

\[
\frac{\text{Sales}}{\text{Average stock carried}}
\]
Productivity potential:

The potential total earnings of an organization are the earnings that would be gained if all input were fully used – with no idle capacity costs.

In other words \( C_d = C \)

\[
T_{pot} = \frac{T}{\text{Total } C_d} \times C
\]

2.7 MEASUREMENT OF PRODUCTIVITY

1. Physical measurement of productivity can be done easily when a single product is produced. Where a firm produces different products in different units, it is difficult to measure the productivity of the whole company. Product mix may consist of different products, different grades, specifications and qualities and finally in different units like ton, kg. or litre etc. In such case, monetary measurements are often used for measuring productivity as follows:

\[
\text{Productivity} = \frac{\text{Value of production}}{\text{cost incurred}}
\]

2. Another method for measuring overall productivity is to adopt labour productivity which is expressed in terms of the man or per man-hour. In case of labour, productivity is increased with the elimination of ineffective and idle time of work-men and by motivating people to do things better. Better industrial relations and incentive schemes will also help in higher productivity. In Marshall’s words, man is “both the end and an agent of production.” Rostas maintains that labour productivity is the most appropriate concept for measuring productivity.
Labour productivity = \( \frac{\text{output}}{\text{No of work-men}} \) or \( \frac{\text{output}}{\text{Direct labour hours}} \)

Output

or \( \frac{\text{output}}{\text{Direct Labour Cost}} \)

If 100 labourers in a Factory-I produce the same quantity of goods of the same quality over the same period as 110 labourers in another factory-II equal in all respects, the productivity is not the same though the production is the same in both the factories.

3. Other methods of measurement are indicated below:

(a) Machine productivity = \( \frac{\text{Output}}{\text{Machine hour}} \) or \( \frac{\text{Output}}{\text{Output}} \)

(b) Raw materials productivity = \( \frac{\text{Qty. of materials}}{\text{Output}} \) or \( \frac{\text{Output}}{\text{Cost of materials consumed}} \)

(c) Capital productivity = \( \frac{\text{Output}}{\text{Capital employed}} \)

Fabricant points out that “indexes of productivity based on the comparison of output with the input of both labour and tangible capital are better measures of efficiency than those based on labour input or capital input alone.”

(c) Land productivity is case of agriculture operations:

\( \frac{\text{Output}}{\text{Area of Land Used}} \)
Note: Consistency in measuring unit is to be followed for the purpose of comparison.

Measurement of input also is difficult as it comprises of a number of different factors such as material, labour and services. In such a case each input factor is measured as follows:

<table>
<thead>
<tr>
<th>Factor</th>
<th>Unit of measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Material</td>
<td>Physical units of quantity, weight</td>
</tr>
<tr>
<td></td>
<td>volume, or monetary value of materials.</td>
</tr>
<tr>
<td>(b) Labour</td>
<td>Man-hour, man-shift, man-day, man-month</td>
</tr>
<tr>
<td></td>
<td>or man-year or direct labour cost.</td>
</tr>
<tr>
<td>(c) Services</td>
<td>Machine-Hour, KW, Labour hour, Capacity</td>
</tr>
<tr>
<td></td>
<td>Percentage etc.</td>
</tr>
</tbody>
</table>

4. Overall productivity is measured by:

\[
\text{Return on capital employed} = \frac{\text{Profit}}{\text{Capital employed}}
\]

It is broken into two measurements:

\[
\text{Profit} \times \frac{\text{Sales}}{\text{Capital employed}}
\]

but this measurement is associated with changes in price levels of various products and manufacturing cycle i.e. time lag from the stage of raw materials to the sale of finished goods.

Measurement of productivity provides information as to the level attained, rate of growth and utilisation of resources. It also permits comparisons at various levels. Productivity measurement thus forms a basis for planning, evaluating and taking appropriate measures for improving productivity at various levels, contributing to more rapid economic growth.
**Improvement of Productivity**

Production planning and control (PPC), Inventory control, cost control, budgetary control, market research, operations research, preventive maintenance, inter-firm comparison, organisation and methods and good management all these at improvement of productivity. The following aspects are to be examined for improving the performance of each element of production in order to ensure that productivity is improved.

1. **Design**

   The design should be aimed at the production by optimum quality at minimum cost. In the case of construction projects, faulty designs lead to waste, bottlenecks, increase in cost and low productivity.

2. **Plant and Machinery**

   They should be neither too small machines nor too large of heavy plant and machinery. The optimum nature and size of plant and machinery is to be decided so that high productivity is achieved. Further, the economics of work by manual labour Vs. machines should also be considered.

3. **Labour Efficiency**

   Labour aspect is the most important factor affecting productivity and hence the following may be looked into for improving labour productivity.

   (a) Placement of right man on the right job with right wages.

   (b) Training of workers.

   (c) Work study, fixation of rates and incentive schemes for the purpose of payment of incentive bonus.

   (d) Production planning and control in order to ensure steady flow of raw materials, proper maintenance of machines and better working conditions.
(e) Simplification and standardisation of work.
(f) Utilisation of suitable workers of the right type of skill.
(g) Finally avoidance of labour shortage or excess of labour.

4. **Material performance**

Material productivity may be increased by –

(a) Value analysis.
(b) Suitable designing with the intention of minimum consumption of material.
(c) Preparation of standard bill of materials so that excessive use of materials is prevented. The bill of materials should indicate the specified units of the various raw materials required for the manufacture of product.
(d) Purchase of right materials at the right time and at the right price from the right source.
(e) Improving the quality of materials.
(f) Removing machine faults.
(g) Skilled labour is required so that defective work, scrap, wastage and spoilage are reduced.
(h) Efficient storage of materials.
(i) Finally efficient handling of materials.

5. **Machine performance**

Machine productivity may be increase by –

(a) Optimum utilisation of machine time.
(b) Proper maintenance including preventive maintenance, routine maintenance and major overhauls whenever required according to the maintenance schedule.
(c) Efficient production planning and control, scheduling and work loading to avoid bottlenecks and idle time of machines as well as manual labour.

(d) Employment of skilled and efficient operatives.

(e) Proper maintenance of machine tools.

6. **Organisation and Production control.**

(a) Proper responsibility accounting.

(b) Simplification, standardization and specialization in product lines.

(c) Application of work study techniques.

(d) Introduction of the system of production, planning and control (PPC),

(e) Integration of the functions of various departments.

(f) A proper system of quality control.

(g) An efficient system of budgeting, standard costing, cost control, cost reporting and budgetary control.

(h) An efficient system of management information system, so that corrective action is taken on the responsible executives in respect of the controllable items.

7. **Good Management**

The implications of good management as revealed in the Anglo American Council on Productivity Teams finding can be listed as:

1. Training of its personnel, from shop-floor to office, in its special skills, both within and outside the firm;

2. The appropriate organisation to ‘spot’ managerial talent, train it, give it the right kinds of experience, and promote it, with sole regard to its merit and efficiency.
3. Provision, awareness and utilisation of detailed measurements of all productive ‘performances’ and costing thereof;

4. Organisation and administration of managerial skills to secure the most efficient, effective, and economical controls over productive processes;

5. Use of (1) to (4) inclusive to secure the highest possible degrees of utilisation of machinery (including maintenance), materials, fuel and power, man-power and any other ingredient in the productive processes;

6. The pre-planning of all operations to secure the smoother and fastest flow through all the productive processes;

7. The closest and best team work in and between all departments and the measures to secure it;

8. Close and continuous pressure for greater standardization, simplification and specialization of components or processes and end-products;

9. Close and continuous pressure for research, experimentation, modifications, and improvements;

10. An artist’s awareness of the human tolerance within which all these conditions can be fulfilled.

The three elements namely, technology, management and human relations, appear to be of much importance for developing countries. A well trained management and trade union with mutual understanding of each other’s problems can create atmosphere required for increasing productivity.
Human Aspect-Productivity

The human aspect of improving productivity is of recent origin. Good management is essential to organise labour, train and motivate them so that their discipline and morale are improved for achieving higher productivity. But the basic human characteristic is resistance to change. When a change is made for improving productivity, it is important to consider the human reactions for a change. The following misconceptions are causing resistance to change among the workers:

1. Higher productivity implies harder manual work.
2. Higher productivity results in working longer hours or more number of days in the week.
3. Higher productivity will lead to redundancy and retrenchment.
4. The results of the gain in productivity will not be distributed fairly.
5. Fear of change: (fear of unknown future prospects for the undecided new method acts as a psychological barrier towards its ready acceptance amongst the workers, supervisors and managers.

The above misconceptions are not true in the sense that by introduction of methods study, motion study and time study, there will not be harder manual work and working longer hours of work. Further, there will not be any retrenchment and moreover employment opportunities will improve because of lowering selling prices and stimulate the demand for the product. Lowering selling prices and payment of incentive bonus are part of distribution of gains of productivity. The misconceptions among the workers may be dispelled by way of conducting training programmes as follow:-

1. Proper training programmes for workers, supervisors and managers.
2. Training for union representatives also in the concepts of productivity.

3. Maintaining good union-management relations.

4. Getting co-operation and involvement of workers, supervisors and managers.

5. In case of redundancy, there should not be any retrenchment. Those workmen should be placed in another department after training on the new jobs.

In this way, workers should be motivated and should be ensured that his morale is high. Proper leadership should be developed and workers’ needs are to be satisfied.

**Gains of Higher productivity**

1. Reduction in cost.

2. Reduction in selling price or increase in profit to the concern.

3. Lower prices increase the purchasing power of money and generate higher demand for existing as well as the new products. This would also lead to higher wages for workers and suitable incentives.

4. Higher profits help in expanding or starting factories. This creates all round development and more employment and in general leads to higher standards of living.

5. Better working conditions for workers & reduction in working hours.

6. Improved morale of workers and staff.

7. Improved quality of product to the consumers.

8. Increase of national wealth.

9. Increase of per capita Income.

11. Better utilisation of resources.

12. Expansion of international market with the help of standardised goods and services.

It is important to note that higher productivity and consequently the achievement of higher standard of living to the masses rests on sharing the gains of higher productivity equitably amongst the participants – labour, capital management, society and government at large. Government also stands to gain by way of higher tax revenues. Hence it is also responsible for framing policies, procedures for economic development so that there is stimulation for achieving higher rate of economic growth. If the gains are not shared equitably, the expected chain reaction may not set in and the vicious circle of poverty and unemployment on account of low productivity cannot be broken. Planning commission stated that the above vicious circle can be broken only by a tremendous stress on the maximum possible contribution being made by all the participants in the process of higher productivity.

**Guidelines of National Productivity Council**

After studying several aspects of the question, the National Productivity Council of India has come to conclusion that the adoption of the following guidelines as a basis of productivity policy would go a long way for helping enterprises and workers unions to make a positive contribution to national economic growth consistent with their respective interest.

1. Equitable sharing the gains of productivity.

2. The sharing should be flexible and simple to understand. Broad guidelines are to be laid down for this purpose.

3. Sharing the gains of productivity should be regarded more as a philosophy of industrial relations rather than a statistical technique of distributing the gains
4. The management have the primary responsibility for increasing productivity.

5. They also have the responsibility for motivating labour and seeking its cooperation for increasing productivity.

6. Introduction of adequate incentive schemes. Such incentive schemes should be simple but composite. These schemes should have an element of providing training to employees and motivating them to reduce wasters.

7. Production norms should be arrived at on the basis of scientific productivity techniques and these should be finally settled through mutual negotiations between managements and trade unions.

8. Effective participation of workers’ representatives.

9. Proper job evaluation system.

10. Merit rating system.

11. Productivity agreements should be entered into with workers with an encouragement of participation by the workers’ representatives. Interest of the consumers also should be kept in view.

12. Where the wage level is low, employees should be given a higher share in the gains of productivity.

13. In the initial stages, schemes for sharing the gains of productivity should be tried in some of the organized manufacturing industries so that the same system can be adopted in the unorganized sector at a later stage on the basis of experience gained in the organized manufacturing industries.

**Productivity and the Cost Accountant**

High productivity require concerted action on the part of various departments such as production, personnel, materials, sales, finance, maintenance and research and development and hence the cost
Accountant has to coordinate all the activities of a concern so that high productivity is achieved. He has to render assistance in the following manner:

1. Interpreting the techniques applied by the management to increase productivity in terms of cost i.e. material labour and overhead.
2. Helping the management in decision-making.
3. Introduction of a system of budgetary control and standard costing.
4. Introducing cost reduction schemes.
5. Preparing suitable norms of productivity indices.
7. Control on cost of materials, labour and overheads.
8. Improving system of communication and reporting to the management on the principles of exception so that the objectives of an organisation are achieved.

Uses of the Learning Curve:

A. Scheduling of work.
B. Training of Labour
C. Material requirement Planning
D. Capital Requirement Planning.
E. Fixation of Sales Price.

PRODUCTIVITY AND EFFICIENCY:

In any sphere of activity, efficiency is the ratio of the result achieved to the means used. It is the ability of an individual or organization to produce the desired effect with the minimum of efforts, expenses or wastes. It is the shortest way of the cheapest means towards the desired goal, when one says that something is efficient, one mean by this this that
it is capable of producing a desired effect and that is not unequal to the task. “Action without delay is the secret of efficiency. In most situations efficiency is a relative concept. There cannot be a state of efficiency without someone having declared a standard or a target. (10).

The concept of efficiency is sometimes considered as synonymous with productivity, but there is clear distinction between the two terms. Productivity may be define as the Ratio between the Production of a given commodity or service measured by volume and one or more of the corresponding input factors, also measured by volume. Efficiency unlike productivity is expressed not in the absolute term but in the relative term. It is the ratio of actual output, using the given resources, to the standard output that should be obtained with these resources in the same time period. The relation between an individual input factor and production is termed as the productivity of that individual factor, but when overall productivity of an organization is measured, it is called efficiency. Dr. Sergeant Florence, rightly says, “it is convenient to use productivity to mean the output from on particular factor of production or particular form of input an to use efficiency to mean the output from the total inputs. (11)

From the above analysis it is obvious that the term efficient has a wide coverage because it is not concerned with the productivity of a single input factor alone but it is concerned with the overall productivity of all the input factors. It may also be mentioned here that the productivity or efficiency of individual input factor is not very significant. The overall efficiency of the whole economy is more important from the social viewpoint.

In contrast Dr. J. P. Shrivastava observed that “the single factor productivity is merely a partial productivity is expresses neither the efficiency not the true productivity.” (12)

So, in concluding view “it has been pointed out that the word efficiency does embrace the idea of productivity, but it goes beyond it in
the sense that it expresses in aptitude or capacity or the quality of input, the productivity of which is under consideration, while productivity introduces the idea of relationship between output and input factors.

2.8 PARTIAL PRODUCTIVITY AND TOTAL FACTORAL PRODUCTIVITY
RELATION BETWEEN COST EFFECTIVENESS AND PRODUCTIVITY:

As already mentioned productivity has been described as the ratio of output to input. There are several inputs viz. material, manpower etc. when the productivity of one of the factors is calculated it is termed as partial measure of productivity. One of the other hand when one wants to know the combined effect of all inputs it is termed as overall productivity measure.

Chen and Mc Garrach pointed out that “with due allowance, for temporary currency value fluctuation or changes in commodity or product prices, there is strong positive co-relation among time series data measuring productivity, profitability and efficiency.” (14) Profitability may be high or low due to change in selling prices of commodities and services, inflationary effects, Governmental policy etc. this does not mean that productivity has also been affected. In the world of 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 rationalization of efforts in every direction is the true basis of productivity.” (15) Increase in productivity leads to greater profitability with an increase in production. However, this will be true only when productivity increases in large production as compared to overall increase in the cost of production, i.e. increase in money wages, raw material and other manufacturing expenses. If the productivity increases to the extent of cost increase only, profitability remain unchanged. On the other hand, any decrease is productivity generally tends to reduce the profitability of an enterprise. At least, the term productivity means the rate of production measured in terms of labour, material or machines. The term profitability means the rate of profit earned, measured in terms of capital employed.
Profitability is also not synonymous with efficiency, though as an index of efficiency it is regarded both as measure of efficiency and management guide to greater efficiency. No doubt, profitability is an important yardstick of efficiency, but the extent of profitability cannot 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 value 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 there are many factors besides efficiency.

According for Dr. J.P. Shrivastava, “It must be clearly understood that productivity is not production, because it concerns not how much is produced but rather how efficiently production is carried on.” (16) Production merely means the volume. Of output, production can be increased without consideration of cost, by increasing the labour, material and equipment. Duplication of a factory or additional shift may increase production, but it may not increase productivity. On the other hand, increase in productivity be saving time, eliminating waste and utilizing the same available resources efficiently and effectively may bring about an increase in production at the lowest cost. Thus, the productivity is a relative term whereas production is an obsolete term.

Owansmith points out “……. the word productivity is often confused with production the two words have different meanings production relates to volume.” (17)

Lastly as the input and output aggregates have all to be comprehensively viewed for determining productivity ratio, the term productivity has a connotation, which is quite distinct from production.
2.9 CONCLUSION

The concept of productivity is multi-dimensional and is influenced by multiple variables. A proper understanding of the concept is sine qua non for productivity management. Further, the ratios, especially financial ratios, are varied and complex. Predetermined and actual ratios and their trends should be compared over a period of time for better productivity management. With the analysis and corrective actions, resources form the entity point of view in particular and the society’s point of view in general.
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CHAPTER – 3
RESEARCH METHODOLOGY

3.1 Rationale of Study.
3.2 Objectives of the Study.
3.3 Hypothesis of the Study.
3.4 Data Collection.
3.5 Period of Study.
3.6 Review of Literature and Tools and Techniques.
3.7 Limitation.
3.1 Rationale of study

The Indian universities are today facing a two fold problem one of the challenges offered by competition, accountability and responsibility on the one hand, and financial crisis on account of paucity of funds on the other. With a view to meeting the challenges there is an urgent need to redefine the concept of a ‘university’ as a not for profit enterprise; could meet the challenge. During the ancient times the *Rishis* and *Gurus* would accept financial support from the rulers for building up of the infrastructure and *Guru Dakshina* from students for the maintenance of the *Ashram*. But their autonomy would not be encroached upon. They ran their *Ashramas* with complete autonomy and served the society in all respects. Today by accepting finances from the common public, the universities are establishing a norm, which would ensure involvement of the society in the ownership and management of the universities. No particular individual but a group of well meaning, conscious and financially well off people would control / manage the university. So the whole idea of the institution belonging to the society, managed by the society, and working for the betterment of the society at large is fostered. If this is not true, democracy in operation what else is it? By making the common man partner in maintaining university, the insularity and exclusivity attached to higher education would evaporate and the dividing walls would start crumbling, and in the form of university we would literally have a Commonwealth, which belongs to all. In the world of competition and global economy, the growing requirements of society are posing universities have started offering special packages and collaborative programmes. Education, in
order to respond to the social requirement, has become a marketable commodity which is, of course, not to be misunderstood for commercialization. To maintain quality and to ensure marketability the universities can no longer depend on funds and resources received from the governments. Hence the need for self-financed courses in professional disciplines. By charging higher fees for professional course like M.B.A. & I.T. the universities can be able to achieve their objectives viz.,

### 3.2 Objectives of the Study:

The major objectives of study are:

- To examine the cost behavior pattern in the sample University.
- To understand the partial productivity and over all productivity of the sample Universities.
- To understand the relationship between the cost effectiveness and productivity of selected universities.
- To understand the problems relates to financial deficit of sample universities.

### 3.3 Hypothesis of the Study:

The major hypothesis carried out by the research is as under.

01. There is no significant difference of the cost behavior pattern of sample universities

02. There is no significant difference in partial productivity and total productivity of Sample University.
03. There is no significant difference in cost effectiveness and productivity of sample universities.

04. There is no significant difference in the financial deficit of the Saurashtra University and Gujarat University.

**Universe of Study:**

The universities working in the Gujarat State are the universe of study and the two big state universities are the sample of the study. These universities are covered the maximum numbers of affiliated colleges of Gujarat State.

3.4 Data Collection:

The study is be based on secondary data, necessary data will be collected from relevant publications Like Budget, University News, Annual Financial Report etc. of the sample universities.

**Sample University of Study:**

(1) Gujarat University
(2) Saurashtra University

3.5 Period of Study:

The present study is for the period from 1993-94 to 2004-05.

3.6 Review of literature:

Through the present study is comprehensive, the guidance of other research work has helped the researcher to make it limited. It is found that no work has been done under the title of cost effectiveness on productivity in the & universities of Gujarat.
Following are the main works related to the topic.

(1) Azad J.L. in his study :changing Complexion of Higher Education – A study of the impact of Emerging Socio-Economic Configuration” has suggested to give autonomy to college in framing their courses for employment ; to make privatization of higher education according to the need of the bazar. He also suggested to give more and more freedom to college in the matter of admission of students, and deciding fees according to costing.

(2) Dr. Pratapsingh Chauhan in his research work “Financial Decision Making Strategies Saurashtra University, Rajkot” has elaborated the issues regarding income-expenditure and lessening of the deficit. This research work is with reference to the conventional as well as non-conventional sources.

The conventional sources are grant and fees while the non-conventional sources are donation. In this case, the actions taken by new Vice-Chancellor are discussed in detail. According to his study, from 1992 to 1999 the income and expenditure were increasing, but during 1997-1999 income increased more than the expenditure. For that the new Vice-Chancellor is strategic actions were responsible.

(3) Following are the conclusions of the research article “Accounting for services – A case study of Saurashtra University” written by Pratapsingh Chauhan.
(1) Budget is not a significant tool to measure the efficiency of an university. A university does not include in its budget its property, liabilities, debts, deposits and investments.

(2) The university did not try to get finance from the society.

(3) The university did not try serious to raise extra fund. Neither it tried to control unnecessary and non-productive expenditure.

(4) Saurashtra University prepare its budget without accurate speculation of the sources of income. Many times the figures are far-away from the reality. It is necessary to make the budget more factual and scientific with the help of accurate and reliable information.

(5) To recruit people on the posts which are not approved by university and so in the case with various departments create high deficit.

(6) The proposals in the budget get approval very lately, and hence university can not be in the position to utilize the U.G.C. grant, and it has to be returned.

(7) Govt. of Gujarat do not approve the deficit-grant in 100%, but it has remained 71%. Hence after every year it increases.

(8) In the absence of definite finance and accounting principles university faces problems in developing a method regarding the expenditure and the payment of the bill.
(4) Mr. Trivedi M.D., in his research paper, “An inquiry into the motivation for and cost-of post-graduate education in Saurashtra University, 1977”, has presented many conclusions regarding his study of the incentive elements for post graduate study and its cost.

(5) In its account, the committee on college finance (Gujarat) discussed the policies regarding monitory matters in the granted colleges. In the article written by hakadawalla D.T. and Shah K.R. “Optimum Utilization of Educational Expenditure in Gujarat and Financing of Universitied of Gujarat” they have discussed the various methods to cop out the expenditures of the universities of Gujarat. They have also discussed the actions regarding the current and new financial policies.


This subject is also studied at national level. Some of the important studies are as below.

(6) Mr. Azad (1975) has done a critical study of the systems, methods, functions and policies in the higher education in India after independence. Nanjudappa (1976) has studied financial matter of Karnataka University. Sharma (1980) has discussed the cost and efficiency assessment in the university of Delhi. Singh and Sharma (1981) edited the research papers on the financial aspects in higher
educations. Ghosh (1983) has studied on the maintenance and development grant and the merits and demerits of deficit grant. Azad (1984) has compared the university finance systems of old days and present time. Padmanabhan (1984) has studied of budgetary reforms, university budget and management Mrudula (1985) analised block and maintenance. Garg (1985) analised the institutional costing and budgetary management. Mukundlal (1986) has produced a project report on the monitory management and condition of Benaras University from the beginning to the time of research. Azad (1988) has showed the various methods about variability of U.G.C. grant. Mazammil (1988) has given the analysis of educational funds and its usages. Kiranmai (1989) analised the various aims of the management of university funds and with reference to it, various yardsticks and remedies have been suggested for the variability of the resources of university. Nair (1990) has pointed towards the costing of higher education. Chauhan (1991) has studied the financial facilities by U.G.C. the also studied the role of U.G.C. in spreading and encouraging higher education. Association of Indian Universities (1991) has discussed the causes of deficit in the universities of India. They also mentioned the actions and methods to remove it. Sharma (1992) has presented definite conclusions regarding financial management, and standards of Income-expenditure. This study has been done by the
Agrawal (1993) examined the friends of income – expenditure of Benaras Hindu University and Aligarh Muslim University with the help of the figures of 1977-78 to 1986-87. Their resources of income have been examined from the institutional point of view. Nanjundappa (1994) studied of financial management in universities. Natarajan has given the strategies regarding financial management with reference to Pondicheri and Hyderabad Universities. Natarajan Garg (1996) has given primary analysis grant, subsidy, various research and plans of Punjab Uni. Chandigadh. Hegde (1998) has portrayed the picture of development and growth in the sector of higher education in Karnataka during 1951-1991. Pannaya committee and Swaminathan Committee recommended mainly to expand the resources of the funds for universities. Payali Committee – UGC (1997) recommended to introduce unit-cost system in universities.

U.G.C. has recommended to the universities and colleges to be valued by National Assessment and Accreditation Council (NAAC). It also warns to check the grant given by it.

(7) A.R. Kamat (1978), in his article, focuses on the political influence in education, limited admission control on the number of college, quality and the fee-structure for various streams.

(8) K. Mukherji (1978) (in his research article “Financing of Indian Universities an extreme View” recommends to limit the higher
education only for brilliant students, to publish the account of university, to fix the amount of expenses in the beginning of the year and to implement cost benefit approach.

(10) J.L. Azad (1978) in his article state govt. grant to colleges', gives many suggestions and recommends to import maximum grant for maintenance, to import 50% of total expenditure as the building grant and to give full grant for furniture and instruments. He also gives many suggestions regarding salary – slabs of the teachers and fees.

G.R. Mhashakes (1978) in his article, “Grant-in-aid Affiliated Colleges” hold that the grant should be given according to the principle of deficit. G.D. Sharma (1978) through his research paper, “U.G.C. – A critique”, suggests for planning of long term and of national level. He also recommends the co-ordinations among the states for the development of every kind of education.

(10) Nanjudappa D.M. (1978) in his article, University Financiers a case study of Karnataka, studied the various trends of income and expenditure. He also suggested to give loan instead of grant, to pay fully by the student, and to introduce indirect loan system for efficient students.

(11) Panchmukhi P.. (1978) through his article. Innovations in Education and the problems of Finance. Experiences of the Bombay University” States that the university of Bombay also was facing
financial crisis like other universities. He suggests to utilize funds in an efficient way and to stop extra expenses.

(12) Dr. M.S. Nigam (1978) in his article Rajasthan University Finances: A Case study studies the trends of income and expenditure of the university. He also suggested to establish an independent commission for allocation of the grants, like U.G.C.

(13) Shah K.R. and Srikantieh S. (1978) in their study ‘the pattern of university income and expenditure (M.S. Uni. Baroda)’ focused on the expenditure per student and deficit per student. Balbirsingh and Stya Paul (1978), in their article, “University Finance – An Interdepartmental Expenditure Analysis” have studied the expenditures of various interdepartments of the University in the time span of 1967-68 to 1975-76. It was a comparative study. Garge V.P. (1978) in his article, “Finances of the university of Panjab: A Trend Analysis” studies the trends of income and expenditure of the affiliated college to Punjab University for the years 1960-61, 1965-66 and 1973-74. Ruder Dutt (1978), in his article. “Costing of Correspondence Education Need for a Rational Policy”, has discussed comparatively the students’ fees, teachers’ salaries, the salaries of administrative staffs of the universities of Rajasthan, Delhi, Punjab and Himachal Pradesh. He also emphasised on the improvement of the teacher – students ratio to
increase the number of answer sheets and library facilities and to improve the quality of reading material.


Purohil M.C. (1978), in his article, “A study in Union – State Relations”, has discussed the cost per student in the various states of the country in the year of 1975-76. He states that there is difference in methods of giving grants by U.G.C. and states. He suggested to develop a logical system in this regard.

Sudha Khosla and Prfibha Khosla (1975) through their article “University Finance : A note on statistical Limitations” holds that the statistical data are quite different when given by different agencies like V.G.C. and Education department. Therefore such figures can not be useful in study.

He also suggested to publish such data in time. He also suggested to form a committee that can decide about the time and magazine for the publication of such data’s. Bava M.S. in his article
“Emerging Trends in India”, has discussed the alternative methods regarding the grant.

(14) Mr. Manish Thaker, under the title of “Cost Management System for Saurashtra University”, has worked regarding lessening the cost, new sources of income and to make cost mgt. system is effective.

(15) Dr. Mathur S.P. in his treatise “Financial Management in Indian Universities” (2001) has studied comparative the structures of income and expenditure of Banaras Hindu University and Aligarh Muslim University.

The following are the Conclusions:

(1) Central Universities depend on U.G.C. for the 92 to 95% of their total maintenance grant. So internal funding was limited to 7 to 8% only.

(2) The amount of tuition fees and hostel fees was very small. The fees in professional course were higher.

(3) There was much deviation in real expenditure than in budgetary speculated expenditure.

(4) In the year of 1991-92, in total establishment expenditure, the maximum contribution was made by educational departments (35 to 40%). In the same way it was 40 to 52%.

(5) Universities preferred central govt. administration than the recommendations of punnayya committee. They also stressed less on educational activities.
The total maintenance cost in 1991-92 was Rs. 30,000. It was closer to the estimate of pannayya committee. Yet the amount per student had reached to 40,000 – 4,50,000.

In 1995-96, the costing per studnet was higher than pannayya committee's standards.

The students - teacher ratio in 1991-92 was 1:16 to 1:11, it was 1:15 to 1:16 in 1995-96 against the recommended standard of 1:12.

The proportion of non-teaching staff was 4 to 5 against a teacher, which should be 3.

University eagerly recruited non-teaching staff but in the case of teaching staff there may be delay.

In 1991-92 in total maintenance cost the internal funds was 7 to 8% It was 7 to 9 in 1995-96 Pannayya recommended it to be 15 to 25%.

Productivity improvement is the ultimate objectives as per the research article of G.D. Sardana and Prem Vrat. They have advocated that to improve productivity, the process of productivity management is necessary where concentration on organizational, human and technical factors should be more.

Sanjay S. Kaplan believes that to have productivity improvements, the role of human resource developments, the role of human. Resource development is fundamental. He believes that HRD not only improves organizational environment but it also helps improve
the oversell personality of employees, within in turn would be of much helpful for improvement in productivity standards.

(18) Micheal Woodford at princeton University has discussed financial marketing efficiency & the effectiveness of monetary policy. In this peper, the description was about a possible conflict between increasing microeconomic efficiency and preserving microeconomic stability. Issues lie reducing the role of commercial banks, advantage of payment of interest on the balances on Federal Reserve System, the disappearances of required reserves and central bank control of interest rates have been studied.

(19) S.G. Hundekar studied the productivity aspect of the Regional Rural Banks. He studied the operational efficiency, profitability and productivity in Rural Oriental Bijapur Gramin Bank and concluded stating that the operating profitability of the Gramin Banks has been very poor.


(21) R. Literal, Concluding remarks though there have been many works carried out in the area of financial performance, profitability,
productivity of various banks, there is no specific study made to
compare the financial efficiency of different types of banks.

Hence, the study is a sincere effort to enable some
contribution the existing literature and to suggest some measure to
improve the overall financial efficiency of bank of Gujarat State.

(22) Report Gujarat Committee own college finance-1976, discusses
rules & regulation of monitory matter of affiliated and grant in aid
colleges.

**Tools and Technique;**

1. **Productivity ratio:**
   - Partial labour Productivity = \( \frac{\text{Output}}{\text{Expenses}} \)
   - Examination Efficiency Ratio = \( \frac{\text{Output}}{\text{Examination Cost}} \)
   - Research and Development efficiency Ratio = \( \frac{\text{Output}}{\text{R & D Cost}} \)
   - Cost Effectiveness Per Student = \( \frac{\text{Total Expenses}}{\text{No. of Student}} \)
   - Revenue Efficiency Ratio = \( \frac{\text{Total Income}}{\text{No. of Student}} \)
   - Total Productivity Ratio = \( \frac{\text{Total Expenditure}}{\text{Total Income}} \)
(2) Cost Classification, (Cost Behavior)

(3) Trend analysis

When the data are arranged and tabulated, the researcher proceeds to analysis and interpretation of data with the help of following techniques.

- Percentage: Percentage is a Ratio received by multiplying any Parameter or amount by desired Percentage and by dividing hundred.
- Simple Index: This is the Simplex method of Constructing index numbers. When this method is used to construct a price index the total of current year prices for the various commodities in Question is divided by the total of base year prices and the Quotient is multiplied by 100 symbolically.

(4) ANOVA Test

the analysis of variance on the most important tools of statistical analysis has been developed specially to test the hypothesis of whether the means of several samples have significant differences or not.

3.7 Limitations of the Study:

1. The study is of academic nature and it is limited two state universities of Gujarat state, the finding may not be same to other private university of Gujarat State.

2. The study is based on secondary data, the secondary data has its on limitation.
CHAPTER- 4

ANALYSIS OF COST EFFECTIVENESSS AND PRODUCTIVITY

4.1 Introduction.

4.2 Educational Expenditure of the sample University.

4.3 Cost Behavior Pattern of the sample university.

4.4 Analysis of Cost Behavior and Financial Effectiveness in Sample University.

4.5 Conclusion.
CHAPTER 4

4.1 Introduction:

Regarding to university management, expenditure means strict, financial discipline in order to get the best result by using available resources economically decides it in these matter audit keeping proper account and produce such document before the authority are also included in expenditure management.

In traditional & Non-traditional function of university strategic management of expenditure, its implementations & control are the central tasks.

Scope:

1. Implementations of strict discipline.
2. To make it compulsory to get approval from higher authority for important & higher expenditure.
3. To make purchase centralized to get commission.
4. To eliminate the expenses which are not important.
5. Curtail the less expenses & to raise resources of the income.

The interest of university should be the central thing in expenditure income.

1. Do not think to get personnel benefit.
2. Do not think to give benefits to relatives of friends, family members
3. To purchase the goods of higher quality at the competitive prices & at the conditions beneficial to the university
4. The grants should be utilized duly & certain goals.
5. To keep accountant properly to makes its audit & produce it before the higher authority.
6. Constant observation should be manage on expenditure management.
4.2 Educational Expenditure of the sample University:

Having discussed the sources from where money for financing education is received it logically follows to discuss how money is spent. In other words it means a discussion of educational expenditures i.e. how the money is spent. This discussion includes explanation and description of appropriation of funds, nature of expenditure, types of expenditure, objects of expenditure, and cost of education and accounting terms. These have been discussed as follows:

1. Appropriation of Funds:

The total amount of money which is received or is likely to be received by the central government out of which expenditure on various items of different fields is to be met is known as the Consolidated Funds. Funds are appropriated for various items in the budget from this consolidated fund. For this purpose a budget is prepared which is placed before the parliament, in the form of a money or financial bill. The budget is prepared yearly. The president of India asks the government particularly the minister of finance to prepare an ‘annual financial statement’ which is, in fact, a statement of estimated receipts and expenditure of the government. It contains a detailed description of the needs of the coming year. The estimates of these needs are presented in the form of demands for grant of money required for different purposes and departments. This statement is then, placed before both the houses of the parliament. Each demand, first proposes a total grant and then, the is split-up into detailed estimates for each item and sub-items. The house may pass, reject or reduce any or all proposed grants. It, however, can not increase the proposed grant. Having been passed as they were proposed or in revised form all the grants are rewritten in the form of a Bill to provide for the appropriation out of the consolidated fund of India. This is known as the Appropriation Bill. This also is placed before the house for formal legislation to give effect to grants already voted by the parliament. No change can be made in the grants at this stage. When it is passed by the House, it becomes the Appropriation Act which permit withdrawal of money from the consolidated fund of India for expenditures on different items. This Act has two types of grants voted and Non-voted. Non-voted grants or items include such
expenditures as salaries of the President, Speaker, deputy speaker and the judges of the supreme courts. Supplementary grants are also considered, voted and passed by the parliament in a similar manner. Supplementary grants are those which are proposed by the Departments when the amount already sanctioned in the Appropriation Act fall short of the requirements of the Departments and they propose to have more funds. In case of emergency the Departments are allowed to spend money out of their contingency fund in anticipation of the sanction of the Parliament.

Similar procedure is adopted the states in which case demands from the states are placed before the state Legislatures.

2. **Nature and Types of the Expenditure:**

Expenditure includes all “financial charges incurred by or on behalf of schools for goods and services. Ordinarily it refers of the current year and does not include the payments made for the services of the previous years or advance payments for services to be rendered future period.”

Expenditures are of various types. They have been classified into different ways. The first classification is current or recurring expenditure, Gross or Capital expenditure and Debt Charges. Current or recurring expenditure on the current ongoing programmes and activities. This includes all payment made in respect of the operation and maintenance of the school plant, general administration and control, salaries of the staff, library, yearly supplies for teaching and other services. These are expenditures which are incurred every year. On the other hand gross or capital expenditure refers to charges on acquiring fixed assets or addition to fixed assets. These are also known as capital outlays and include all expenditure incurred on acquiring sites, building, equipment, play ground, hostels canteen (building and equipment), co-operative store etc. These expenditures are also know as non-recurring expenditure, since they are not incurred every year. Once they are acquired the give service for many years. Debt services or charges usually include payments of principal and or interest on that taken as loan. Debt Expenditure is of two kind, current or recurring and carried over.
When the loan is paid back in the same financial year in which it was borrowed it is termed as current or recurring. When it is extended beyond that to the following years it is termed as carried over debt changes.

Educational expenditure can, again, be divided into public and private expenditures. Public expenditure is that charge while it met out of the government funds, while private expenditure is that which is met out of private endowments, donations, fees and other contributions. Each of these is further divided as public expenditure on public education, public expenditure on private education and private expenditure on public education, private expenditure on private education depending on the sector of education on which it is incurred. Public expenditure on private education is, generally, found in the form of subsidies, aids, grants etc., to private schools and colleges.

Another way to classify education expenditures is to divide them as direct and indirect expenditures. Expenditures incurred directly for running the institutions and which can be identified with specific activities such as salaries, allowances (traveling and others), contribution to provident fund, badges, liveries, prizes recurring contingencies, excursion, extra-curricular activities, extension scouting NCC, games and sports, etc., maintenance of the school plants involving expenditures on library, laboratories, furniture repair of building, etc., are included in the categories of direct expenditures. The indirect expenditures include expenditure on items like inspection, buildings scholarships, hostel facilities, canteens, direction, equipment and furniture and other miscellaneous items such as special brands to certain highly specific activities. These are known as indirect expenditures as they are not directly connected with the running and maintenance of the main activates programmes, and that they can not be apportioned among different types of institutions. However, there can not be a rigid and all time distinction between these two types expenditures. It is, sometimes, a matter of policy and philosophy that determines whether the item of expenditure should be considered direct or indirect expenditures. To illustrate an example of may be presented. When the universities and education boards in India were merely examining bodies, expenditure on them was classified as
indirect; but when the universities started campus teaching and examinations were considered as an integral part of instruction, expenditure on them was classified as direct expenditure in the XI Quinquennial review on the progress of education in India.

Expenditures are also classified on the basis of the purpose and the type of education. They are, then, known as expenditure by purpose and expenditure by level and type of education. The following items are included under each of these types of expenditure according to UNESCO. Contribution which education makes to economic development of a country. It is from higher education and research establishments that the new ideas and techniques flow. Skills which the individuals posses and which contribute to capital formation result from education of the people. Cost of education in this context constitutes an important concept.

Cost of educations work out in terms of unit cost. It is an important concept in education. It helps in studying the cost-quality relationship. It also helps in the planning of educational development within the limits of available resources. The unit of education can be a student or a class or an institution. Thus, costs of education can be calculated as pupil cost, an institutional cost and so on. There are several advantages of cost analysis. The data so collected may be utilized for various purposes such as comparing institutional merits, comparing various educational tasks, maintaining efficiency at minimum cost, determining alternative patterns of allocating financial merits and demerits of educational practices, evaluating economic feasibility of educational plans and suitability of other educational projects. These data on cost analysis may also be used for identifying and checking unnecessary expenditure on pomous buildings, rarely used teaching material, irrelevant curricula, high – cost administration and other items. This kind of cost analysis reveals immediately the efficiency of the control of expenditure and the care with which the resources are utilized, scared resources, in that case can be saved from being wasted.

The unit cost for the pupils is the annual cost of running the school which is calculated on the basis of pupils as units. For this purpose pupils are
considered in average daily attendance or pupils are considered in average annual cost per pupil. The average annual cost per pupil is calculated by dividing the total direct expenditure incurred during the year for each type of institution by the number of students on rolls on the last day of the year. It is not only the cost per pupil which is calculated. In addition to this, if someone wants, other costs such as unit cost of building, of equipment of furniture, of administrative machinery, of supervision and library books, instructional materials, laboratory equipment, printing inspection may also be calculated in the same way. While calculating unit cost of education three types are considered important. These are : Unit institutional cost, unit student cost and unit opportunity cost. Institutional cost is of two types recurring and non – recurring. Non recurring cost can be further divided into capital cost and equipment cost. Recurring cost may be divisible and non-divisible. The land, building hostels, hospitals, staff – quarters, library, laboratories, workshops, etc., constitute the capital cost. Non recurring equipment cost includes expenditures on items like stock of library books, instructional materials, laboratory equipment, printing library books, instructional materials, laboratory equipment, printing press etc. This does not include the annual recurring expenditure on the forgoing items as this is already included in the recurring expenditure. Non-divisible recurring cost consist of those items of expenditure which are incurred on providing common services to all the students and which are equally shared by them. items like salary, pension, gratuity, provident fund of the staff, expenditure on N.C.C. hostels ,extra-curricular activities electric, water and other administrative charges, repairs of buildings, hostels etc., contingent expenditure scholarship, and free ships, etc income under non-divisible recurring cost. Divisible recurring costs are expenditures that are incurred on providing services to only a section of the students which are not shared by all the student the main items falling under this category are salaries and allowances of the teaching staff and recurring expenditure on articles of laboratories and works shops, school bus, etc. This is the expenditure which is distributed over members of that single group only (not all the student are included in this) for calculating the unit cost for that group only.
Student cost includes tuition and other fees, cost of books, equipment and stationary, sundry expenses, extra expenses, extra cost of maintenance.

4.3 COST BEHAVIOUR PATTERN OF THE SAMPLE UNIVERSITY:

Behavior pattern of expenditure of the universities is analyzed here briefly by classifying the expenditure into broad functional categories following the recommendations of UGC (1993). The UGC committee has suggested that all cost of universities and institutions of higher education should be broken into three components:

a) Academic (teaching and research) costs.
b) Academic support costs (libraries and laboratories) and
c) Student welfare costs (hostels, etc).

The committee also argued that attempts should be made to recover near full cost with respect to student welfare costs, substantial proportion of academic support costs, and reasonable or meaningful proportion of academic costs from the students.

The functional classification adapted in the present study includes expenditure on academic and administrative activities, student welfare and other services. Depending upon the availability of information, salary expenditure are also separately analyzed. The relative share of each item of expenditure in total recurring expenditure is calculated for 23 universities. However, for the entire sample of 39 universities and alternative classification is adopted: expenditure on total salaries and non-salary academic expenditure. All this dependent upon the availability of data in detail. The expenditure is classified here into the following categories:

1. Academic and Administrative expenditure.
2. Expenditure on all salaries.
3. Non-salaries academic expenditure.
4. Student welfare, and
5. Other services.
The summarized details for the two time periods on percentage distribution of expenditure of the universities on various items represented as a percent of recurring expenditure.

1. Salary and office Administrative expenditure:

   Salary expenditure consist of expenditure on salaries on salaries of teaching and other academic (supporting) staff, expenditure on staff development including training and seminars, examinations, libraries, laboratory and workshop and computers. Expenditure on office administration includes salaries and allowances of non-academic expenditure in total recurring expenditure for the two periods are given.

   As note earlier, data on salaries are not available for all universities separately for teachers and administrative staff. Total salary expenditure is given as a single item. The total salary bill includes salaries of academic and administrative staff,

   The Non-salary academic expenditure consist of expenditure incurred on development of staff, which includes training, seminars etc., examinations, libraries, laboratories and workshop and computer.

   Student welfare is generally considered to be an important functions of the universities, and this accounts in absolute terms, for a good amount of the university budgets. The expenditure on student welfare comprises of expenditure on hostels, stipends, scholarships, fellowship and others and any other expenditure on student activities.

   Expenditure on ‘Other’ services consists on expenditure or maintenance of buildings, electricity, telephone / fax and other miscellaneous items. Expenditure on other services was once termed as ‘municipal expenditure’ and it was suggested that university institutions should try to reduce such expenditures to the extent possible.

   To conclude, there is much scope for improvement in the expenditure on academic and academic support expenditure in the universities and to reduce expenditure and administration and municipal
services. The desirable pattern as suggested by the UGC(1993) is yet to be reached by many universities.

Education is the concurrent list in India. Therefore, central and state governments share expenditure on education. The share of expenditure on higher education of the total expenditure on education increased from 9% in first plan to 25% in fourth plan. But, it reduced from 22% in Fifth plan 10 in Ninth plan. of the total budgeted expenditure on education over the last three years, the share of expenditure (plan and non plan) on higher education has also been receded from 25.39% in 2000-2001 to 17.34 during 2002-03. Recently, major efforts have been escalated for mobilization of resources of and institutions of higher education emphasized to raise their own resources by raising the fee levels or through consultancy and other activities.

**EXPENDITURE PATTERN OF SAURASHTRA AND GUJARAT UNIVERSITY:**

(a) **RECURRING EXPENDITURE OF SAMPLE UNIVERSITIES:**

**Salary and office administration:**

- Teaching and Research Guiding staff.
- Total salaries.
- Administrative and Other staff.

**Grants to Institutions:**

- Constituent colleges.
- Other institutions.
- Affiliated colleges.
- Total Grants.

**Teaching Material:**

- Furniture.
- Apparatus, Chemicals & consumable stores.
- Equipments.
- Total Teaching Materials.

Other Expenses:

- Library.
- University expenses on scholarships.
- Games and sports.
- Stipends & other Financial Assistance.
- Conduct of examinations.
- Student welfare and extra curriculum.
- Computer centre expenses.
- Hostel Expenses.

(b) NON-RECURRING EXPENDITURE OF SAMPLE UNIVERSITIES:

- Building.
- Equipment.

Other item for which accounts are separately maintain.

Expenditure on scholarships, stipends from sources other than university.

Total non-recurring.
4.4 **Analysis of cost behavior and financial effectiveness in sample university:**

In present study, an attempt has been made to study the various trends of recurring expenditure incurred by universities. Considering the availability of data and necessary information, this study has classified all the expenditure in the following heads in the sample universities:

1. Total Expenditure.
2. Total Income.
3. Total Deficit / surplus.
4. Salary and Office Administration Expenses.
5. Examination Expenses.
6. P.G. Education and Research Expenses
7. Library Expenses.
8. Publication Expenses.
9. Other Expenses.

1) **Analysis of Total Expenditure:**

Data on all Expenditure of Saurashtra University and Gujarat University Separately. So purpose of analysis all Expenditure figure are consider here Expenditure.
Table No. 4.1: Total Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>462.621</td>
<td>964.797</td>
</tr>
<tr>
<td>1994-95</td>
<td>564.387</td>
<td>770.971</td>
</tr>
<tr>
<td>1995-96</td>
<td>632.862</td>
<td>845.336</td>
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<tr>
<td>1996-97</td>
<td>679.389</td>
<td>936.676</td>
</tr>
<tr>
<td>1997-98</td>
<td>751.149</td>
<td>1833.124</td>
</tr>
<tr>
<td>1998-99</td>
<td>989.981</td>
<td>1113.18</td>
</tr>
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<td>1999-00</td>
<td>1175.564</td>
<td>1499.792</td>
</tr>
<tr>
<td>2000-01</td>
<td>1123.355</td>
<td>66.669</td>
</tr>
<tr>
<td>2001-02</td>
<td>1192.369</td>
<td>1445.418</td>
</tr>
<tr>
<td>2002-03</td>
<td>3837.319</td>
<td>1568.824</td>
</tr>
<tr>
<td>2003-04</td>
<td>1398</td>
<td>1637.125</td>
</tr>
<tr>
<td>2004-05</td>
<td>1976.35</td>
<td>2351.65</td>
</tr>
<tr>
<td>Average</td>
<td>1231.9455</td>
<td>1252.796833</td>
</tr>
<tr>
<td>SD</td>
<td>923.316</td>
<td>595.238</td>
</tr>
<tr>
<td>CV</td>
<td>74.9478354</td>
<td>47.51277172</td>
</tr>
</tbody>
</table>

Chart 4.1: Total Expenditure

<table>
<thead>
<tr>
<th>Year</th>
<th>% of Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-00</td>
<td>Sau. Uni.</td>
</tr>
<tr>
<td>2002-03</td>
<td>Sau. Uni.</td>
</tr>
</tbody>
</table>

Table No. 4.1 : Showed Total Expenditure Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

The Total expenditure of Saurashtra University was ranged between the Rs.3837.319 Lacs in year 2002-03 to Rs. 462.621 in 1993.94 which was increased to Rs.564.387 in 94-95, and Rs.632.862 in 1995-96. The exp. was again raising 679.389 in 1996-97 to Rs. 1175.569 in 1999-2000. Thus it shows increased total exp. trends from 1993-94 to 1999-2000, but it’s slightly declined and went down Rs.1123.355 Lacs in 2000-2001. In last 3 years of study period expenditure showed increased trends. The S.D. was very fluctuated from the average.

The Total Exp. of G.U. was the lightest of Rs. 2351.65 lakhs in 2004-05 and the lowest of Rs. 66.669 Lacs in 2000-01. The Exp. trends had been very fluctuated with an average of 1252.797. The Exp. was Rs. 964.797 in 1252.797. The Exp. was Rs. 964.797Lacs in 93-94 then it declined to Rs.770. 971 Lacsin 94-95 but again it Rose Rs.845.336 Lacs in 95-96, Rs. 936.676 in 96-97 and reachedRs.1833.12Lacs in 1997-98. Then after the exp. went down toRs.1113.18Lacs in 1998-99. The exp. was increased Rs.1499.79Lacs in 1999-2000, but it was highly declined to Rs.66.669Lacs in 2000-2001. The trend in total expenditure for the last in research period was increased with standard deviation of Rs.595.2348Lacs.

According to above analysis the average Total exp. of the G.U. was more then the SU. the trend of the both of the university were fluctuated. The S.D. of S.D. was higher then the S.U. on the basis of analysis SU. has been successful to control the expenditure compare the GU.
Chart 4.2 Trend Analysis of Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th>Year</th>
<th>Sau. Uni Trend</th>
<th>Rs. In Lakhs</th>
<th>Guj. Uni Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1994-95</td>
<td>121.998</td>
<td>79.91</td>
<td></td>
</tr>
<tr>
<td>1995-96</td>
<td>136.799</td>
<td>87.618</td>
<td></td>
</tr>
<tr>
<td>1996-97</td>
<td>146.856</td>
<td>97.085</td>
<td></td>
</tr>
<tr>
<td>1997-98</td>
<td>162.368</td>
<td>190.001</td>
<td></td>
</tr>
<tr>
<td>1998-99</td>
<td>213.994</td>
<td>115.38</td>
<td></td>
</tr>
<tr>
<td>1999-00</td>
<td>254.11</td>
<td>155.452</td>
<td></td>
</tr>
<tr>
<td>2000-01</td>
<td>242.824</td>
<td>6.91</td>
<td></td>
</tr>
<tr>
<td>2001-02</td>
<td>257.742</td>
<td>149.816</td>
<td></td>
</tr>
<tr>
<td>2002-03</td>
<td>529.474</td>
<td>162.607</td>
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</tr>
<tr>
<td>2003-04</td>
<td>302.191</td>
<td>169.686</td>
<td></td>
</tr>
<tr>
<td>2004-05</td>
<td>427.207</td>
<td>243.746</td>
<td></td>
</tr>
</tbody>
</table>
Table 4.2: Trend Expenditure Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

Trend analysis of total expenditure absolute figure and trend analysis of Saurashtra University & Gujarat University under study presented.

In Saurashtra University total expenditure figure showed an increasing trend except year 2000-01. The absolute total exp. of Saurashtra University was showed an increasing trend in first six years of study period. It was 100 and reached at Rs.892.474Lacs in 2002-03 and then it decline and went up to 302.191 in 2003-04 and with high jump it stopped of Rs.427.207Lacs in year 2004-05.

In Gujarat University the trend of total expenditure showed a very high ups and down during Research study period. It was 100 in 93-94 and with increasing level. It reached to 155.452 high-up and down indicates high fluctuations in total expenditures of figure of university.

The trend of Gujarat University in expenditure showed an increasing trend except 2000-01. This indicates level of exp. in smoothly increasing.

Total Expenditure (ANOVA Test)

**Null Hypothesis:**
There is no any significant difference in total expenditure of universities under study.

**Alternative hypothesis:**
There is significant difference in total expenditure of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23
ANOVA Table No. : 4.3

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2608.669</td>
<td>1</td>
<td>2608.669</td>
<td>0.004323</td>
<td>4.300944</td>
</tr>
<tr>
<td>Within Groups</td>
<td>13275044</td>
<td>22</td>
<td>603411.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13277653</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table No. 4.3: indicates there was no any significant difference in total expenditure of universities under study because the calculated value of ‘F’ was lower than table value so, null hypothesis is accepted and alternative hypothesis rejected. It can be concluded that both universities follow uniform pattern for total expenditure.

2) Total Income:

Data on all Income of Saurashtra University and Gujarat University Separately. So purpose of analysis all Income figure are consider here Income.

Table 4.4: Total income of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th>Year</th>
<th>Rs. In Lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sau Uni</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>1993-94</td>
<td>477.029</td>
</tr>
<tr>
<td>1994-95</td>
<td>489.959</td>
</tr>
<tr>
<td>1995-96</td>
<td>589.731</td>
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<tr>
<td>1996-97</td>
<td>649.914</td>
</tr>
<tr>
<td>1997-98</td>
<td>773.742</td>
</tr>
<tr>
<td>1998-99</td>
<td>994.77</td>
</tr>
<tr>
<td>1999-00</td>
<td>1347.191</td>
</tr>
<tr>
<td>2000-01</td>
<td>1675.84</td>
</tr>
<tr>
<td>2001-02</td>
<td>1526.621</td>
</tr>
<tr>
<td>2002-03</td>
<td>1811.658</td>
</tr>
<tr>
<td>2003-04</td>
<td>1820.679</td>
</tr>
<tr>
<td>2004-05</td>
<td>1738.856</td>
</tr>
</tbody>
</table>

Average: 
SD: 
CV:
Table No. 4.4 : Analysis of Total Income Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

Total Income of Saurashtra & Gujarat University under study consists of all the income generated from the research period from 1993 to 2004-05.

The Income of Saurashtra University was ranged between the Rs. 1675 lacs in year 2001-2002 to Rs.477.029Lacs in year 1993-94 with an average of 1157.999. The come Rs. 477.029Lacs in 1993-94 which was increased to Rs. 1675.84Lacs in year 2000-01 and Rs.1526.62Lacs in year 2001-02. The Total Income was again raising Rs.589.731 lacs in Year 1995-96 to Rs.1347.19Lacs in year 1999-2000. Total Income trends from 1993-94 but its slightly increasing and declined to 2001-02 year and last year also declined Rs. 1738.86 lacs in year 2004-05.
In last years of study period of Saurashtra University showed declined trends. The S.D. was very fluctuated from the average.

The Income of Gujarat University was the highest of Rs. 4016.41 lacs in year 2004-05 and the lowest of Rs. 1443Lacs in year 2001-02. The Gujarat University Income trend had been very fluctuated with an average of 2767.212. The Income was Rs. 768.939 Lacs in 1993-94 then it declined to Rs.1434.4Lacs in 2001-2002 but again it raised Rs. 1241.96Lacsin 1997-98, 1451.23 in 1998-99, Rs.1734.2Lacsin 2000-01.

Then after the income went down to Rs.1443.4Lacs in 2001-02. The Income was increasedRs.4016.51Lacs in 2004-05. The trend in Income for last research period was increase with the standard deviation of 3793.655.

According to above analysis the average Total income of the Gujarat University was more then the Saurashtra University were fluctuated. The S.D. of Saurashtra University was higher then the Saurashtra University on the basis of analysis Saurashtra University has been successful to control the expenditure compare to Gujarat University.

Table : 4.5 Trend analysis of Income Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th>Year</th>
<th>Sau Uni</th>
<th>Guj Uni</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
<tr>
<td>1994-95</td>
<td><strong>102.711</strong></td>
<td><strong>113.431</strong></td>
</tr>
<tr>
<td>1995-96</td>
<td>123.626</td>
<td>119.733</td>
</tr>
<tr>
<td>1996-97</td>
<td>136.242</td>
<td>124.655</td>
</tr>
<tr>
<td>1997-98</td>
<td>162.2</td>
<td>161.516</td>
</tr>
<tr>
<td>1998-99</td>
<td>208.534</td>
<td>188.731</td>
</tr>
<tr>
<td>1999-00</td>
<td>282.413</td>
<td>230.616</td>
</tr>
<tr>
<td>2000-01</td>
<td>351.308</td>
<td>225.532</td>
</tr>
<tr>
<td>2001-02</td>
<td>320.027</td>
<td>1377.182</td>
</tr>
<tr>
<td>2002-03</td>
<td>379.779</td>
<td>295.105</td>
</tr>
<tr>
<td>2003-04</td>
<td>381.671</td>
<td>359.644</td>
</tr>
<tr>
<td>2004-05</td>
<td>364.518</td>
<td>522.344</td>
</tr>
</tbody>
</table>
Table No. 4.4 : Trend Analysis in Income Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

Trend analysis of total income absolute figure and trend analysis of Saurashtra University & Gujarat University higher study presented.

In Saurashtra University Income figure showed an increasing trend except year 2001-02. The absolute total income of Saurashtra University was showed an increasing trend in first 11 years of study period. It was 100 and reached at 381.671 in 2003-04 and then declined and went up 364.518 in 2004-05 to law jump to stopped it.
Total Income (ANOVA Test)

Null Hypothesis:
There is no any significant difference in total income of universities under study.

Alternative hypothesis:
There is significant difference in total income of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23

ANOVA Table 4.6

<table>
<thead>
<tr>
<th>Source of Variation</th>
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<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>15537390.83</td>
<td>1</td>
<td>15537391</td>
<td>2.11499</td>
<td>4.30944</td>
</tr>
<tr>
<td>Within Groups</td>
<td>161619047.6</td>
<td>22</td>
<td>7346320</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>177156438.5</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the above table no. 4.6, it is clear that difference in between groups and within groups was not significant because the calculated value of ‘F’ (2.11) was lower than the table value of ‘F’ (4.30). Analysis indicates that there were similarities in total income of universities under study.

3) Total Deficit / surplus:

Data on all Deficit / surplus of Saurashtra University and Gujarat University Separately. So purpose of analysis all Deficit / surplus figure are consider here Income. In order to identify the surplus /deficit in the Expenditure and Revenues under the head of Income and Expenditure are considered.
Table 4.7: Deficit of Saurashtra University & Gujarat Universities under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th>Year</th>
<th>Sau Uni</th>
<th>Guj Uni</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>-14.408</td>
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</tr>
<tr>
<td>1994-95</td>
<td>74.429</td>
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<td>1995-96</td>
<td>43.131</td>
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<td>1996-97</td>
<td>29.476</td>
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<td>-22.594</td>
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<td>2002-03</td>
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<td>2003-04</td>
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<tr>
<td>2004-05</td>
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</tr>
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</tr>
<tr>
<td>SD</td>
<td>656.206</td>
<td>3679.785</td>
</tr>
<tr>
<td>CV</td>
<td>932.72232</td>
<td>-236.123077</td>
</tr>
</tbody>
</table>
Table No. 4.7 Deficit / Surplus Management in Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

-Saurashtra University:

-Gujarat University:

The year wise deficit/surplus absolute figure and percentage of total Income & total expenditure.

The deficit of Saurashtra University of Gujarat University was the highest of Rs. 591.169 lacs in year 1997-98 and the lowest of Rs. 1664.9 Lacs in year 2004-05. The deficit/surplus trends had been very fluctuated in average period of study. The deficit of Gujarat University Rs. 195.859 Lacs in year 1993-94 to slightly change to Rs. 75.334 lacs in years 1995-96. Then after the deficit went down to lower lever category of average study period.

The trend in deficit for the last year research period was increased standard deviation of 3670.785.
According to above analysis the overage deficit of the Gujarat University was comparatively more then the Saurashtra University the trend of the both of the University were fluctuated. The S.D. of Saurashtra University was higher then the Saurashtra University on the basis of analysis Saurashtra University has been control the successful compose of Gujarat University.

**Table 4.8 : Trend Analysis of Deficit of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005**

<table>
<thead>
<tr>
<th>Year</th>
<th>Rs. In Lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>100</td>
</tr>
<tr>
<td>1994-95</td>
<td>-516.581</td>
</tr>
<tr>
<td>1995-96</td>
<td>-299.355</td>
</tr>
<tr>
<td>1996-97</td>
<td>-204.581</td>
</tr>
<tr>
<td>1997-98</td>
<td>156.816</td>
</tr>
<tr>
<td>1998-99</td>
<td>332.454</td>
</tr>
<tr>
<td>1999-00</td>
<td>1191.192</td>
</tr>
<tr>
<td>2000-01</td>
<td>3834.564</td>
</tr>
<tr>
<td>2001-02</td>
<td>2319.913</td>
</tr>
<tr>
<td>2002-03</td>
<td>-14059.28</td>
</tr>
<tr>
<td>2003-04</td>
<td>2933.641</td>
</tr>
<tr>
<td>2004-05</td>
<td>-382.8378</td>
</tr>
</tbody>
</table>
Table No. 4.8 : Trend Analysis Deficit / Surplus Management in Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

Trend analysis of deficit /surplus absolute figure and trend analysis of Saurashtra University and Gujarat University higher study presented.

In Saurashtra University deficit figure showed an increasing trend expect year 1997-98. The absolute deficit/surplus of Saurashtra University was showed an increasing trend in first average years of study period. It was 100 and reached at Rs. 2834.564 lacs in year 2000-01 and then defined and went up. 2933.641 in 2003-04 to stopped it.

In Gujarat University trends of average study of Research period is very Fluctuated. Finally it indicates deficit/surplus of both the University is smoothly increasing.

Deficit (ANOVA Test)
There is no any significant difference in deficit of universities under study.

Null Hypothesis:
There is no significant difference in deficit of universities under study.

Alternative hypothesis:
There is significant difference in deficit of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23

ANOVA Table 4.9 :

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>15917389.4</td>
<td>1</td>
<td>15917389</td>
<td>2.278564</td>
<td>4.300944</td>
</tr>
<tr>
<td>Within Groups</td>
<td>153685656</td>
<td>22</td>
<td>6985712</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>169603046</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
It is clear from table No. 4.9 that the calculated value of F was 2.278, which is lower than table value of F (4.30). So, null hypothesis is accepted and alternative hypothesis is rejected. So, it can be concluded there is no any significance difference in deficit pattern of universities under study.

4) Salary and Office Administration Expenditure:

Data On Salaries are not available for all Universities separately for teachers and Administration staff. Total salary Expenditure is given as Single item. The total salaries of academic and administrative staff. so purpose of analysis all salaries figures are consider here as salary as Expenditure.

**Table 4.10 : Salary & office Administration of Saurashtra University and Gujarat University Studies from 1993-94 to 2004-05**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>342.685</td>
<td>157.721</td>
</tr>
<tr>
<td>1994-95</td>
<td>383.34</td>
<td>168.141</td>
</tr>
<tr>
<td>1995-96</td>
<td>420.677</td>
<td>208.792</td>
</tr>
<tr>
<td>1996-97</td>
<td>468.877</td>
<td>201.222</td>
</tr>
<tr>
<td>1997-98</td>
<td>548.327</td>
<td>204.049</td>
</tr>
<tr>
<td>1998-99</td>
<td>745.913</td>
<td>255.593</td>
</tr>
<tr>
<td>1999-00</td>
<td>870.379</td>
<td>288.835</td>
</tr>
<tr>
<td>2000-01</td>
<td>799.078</td>
<td>257.169</td>
</tr>
<tr>
<td>2001-02</td>
<td>840.153</td>
<td>279.561</td>
</tr>
<tr>
<td>2002-03</td>
<td>890.376</td>
<td>247.414</td>
</tr>
<tr>
<td>2003-04</td>
<td>880.587</td>
<td>272.197</td>
</tr>
<tr>
<td>2004-05</td>
<td>934.931</td>
<td>471.218</td>
</tr>
<tr>
<td>Average</td>
<td>677.11025</td>
<td>250.992667</td>
</tr>
<tr>
<td>SD</td>
<td>225.781</td>
<td>81.628</td>
</tr>
<tr>
<td>CV</td>
<td>33.34479363</td>
<td>32.52215927</td>
</tr>
</tbody>
</table>
Total No. 4.10 Analysis of salary and Office Administration Expenditure of Saurashtra University and Gujarat University under study:

The salary and Office Administration Expenditure of Saurashtra University was ranged between the Rs. 934.931 lacs in year 2004-05 to 342.685 in 1993-94 with an average of 677.1102. The salary and Office Administration Expenditure was Rs. 342.685 Lacs in 1993.94. Which was increased to Rs. 384.34 lacs in 94-95, Rs. 468.877 lacs in 1996-97 Rs. 870.379 in 1999-2000 and up to last year 2004-05 increasing. Thus it shows increased salary and Office Administration Expenditure trends from 1993-94 to 2004-05, but its Slightly increasing. In last year of study research period the exp. showed increased trends. The S.D. was very fluctuated from the average.

The salary and Office Administration Expenditure of G.U. was the highest of Rs. 471.218 lacs in 2004-05 was the lowest of starting period or research study is Rs. 157.721 lacs in 193-94. The salary and Office Administration
Expenditure trends had been very fluctuated with average of Rs. 250.993 lacs. The exp. was Rs. 157.721 lacs in year 1993-94 to study period in Rs. 471.218 lacs in year 2004-05 was increasing trends.

The trend in salary and Office Administration Expenditure for last in research period was increased with the S.D. of 81.628.

According to above analysis the average salary and Office Administration Expenditure of the Gujarat University was comparatively declined of both the research period of study.

Table 4.11 : Trend analysis Salary & office Administration of Saurashtra University and Gujarat University Studies from 1993-94 to 2004-05

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1994-95</td>
<td>111.864</td>
<td>106.607</td>
</tr>
<tr>
<td>1995-96</td>
<td>122.759</td>
<td>132.381</td>
</tr>
<tr>
<td>1996-97</td>
<td>136.824</td>
<td>127.581</td>
</tr>
<tr>
<td>1997-98</td>
<td>160.009</td>
<td>129.373</td>
</tr>
<tr>
<td>1998-99</td>
<td>217.667</td>
<td>162.054</td>
</tr>
<tr>
<td>1999-00</td>
<td>253.988</td>
<td>183.13</td>
</tr>
<tr>
<td>2000-01</td>
<td>233.181</td>
<td>163.053</td>
</tr>
<tr>
<td>2001-02</td>
<td>245.168</td>
<td>177.25</td>
</tr>
<tr>
<td>2002-03</td>
<td>259.823</td>
<td>156.868</td>
</tr>
<tr>
<td>2003-04</td>
<td>256.967</td>
<td>172.581</td>
</tr>
<tr>
<td>2004-05</td>
<td>272.825</td>
<td>298.767</td>
</tr>
</tbody>
</table>
Table – 4.11 : Trend Analysis in salary and Office Administration Expenditure of Saurashtra University and Gujarat University under Study from 1993 to 2004-2005.

Trend analysis of salary and Office Administration Expenditure absolute figure in indicted and trend analysis of Saurashtra University & Gujarat University higher study presented.

In Saurashtra University salary and Office Administration Expenditure showed an increasing trend all the research study period. The first average of study 1993 to 1994 Was 100 to 272.825 in 2004-05. Thus always increasing trends showed obviously.

In Gujarat University trends of average study of Research study is very fluctuated. Trend study is 100 in 1993-94 to increasing 183.130 in 1999.2000. but 163.053 in year 2000-01 this period. So decline and increase 177.250 is year. 2001.02 Then after increased to 298.767 in year. 2004-05. it indicate trends in salary and Office Administration Expenditure of Gujarat University is very fluctuated.
Salary & Office and Administrative Expenses (ANOVA Test)

**Null Hypothesis:**
There is no any significant difference in salary and office and administrative expenses of universities under study.

**Alternative hypothesis:**
There is significant difference in salary and office and administrative expenses of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23

### ANOVA Table 4.12

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1089457</td>
<td>1</td>
<td>1089457</td>
<td>37.80196787</td>
<td>4.300944</td>
</tr>
<tr>
<td>Within Groups</td>
<td>634042.6</td>
<td>22</td>
<td>28820.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1723500</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is evident from table no. 4.12 that the difference between salary and office and administrative expenses in between groups and within groups was significant because the calculated value of ‘F’ (37.80) was higher than the critical value of ‘F’ (4.30) so, null hypothesis is rejected and alternative hypothesis is accepted. So, it indicates a high deviation in salary and office and administrative expenses of universities under study.

4) **Analysis of Examination Expenditure:**

Examination Expenses includes paper setting Remuneration, Travelling allowance for Examination work, Supervision charges, printing expenses, Postage and telegram expenses reassessment expenditure etc. were consider under this head for purpose of analysis.
Table 4.13: Examination Expenditure of Saurashtra University and Gujarat University Studies from 1993-94 to 2004-05

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>98.364</td>
<td>141.547</td>
</tr>
<tr>
<td>1994-95</td>
<td>173.833</td>
<td>192.984</td>
</tr>
<tr>
<td>1995-96</td>
<td>153.127</td>
<td>204.276</td>
</tr>
<tr>
<td>1996-97</td>
<td>155.895</td>
<td>236.645</td>
</tr>
<tr>
<td>1997-98</td>
<td>136.798</td>
<td>254.025</td>
</tr>
<tr>
<td>1998-99</td>
<td>171.698</td>
<td>235.871</td>
</tr>
<tr>
<td>1999-00</td>
<td>217.735</td>
<td>365.468</td>
</tr>
<tr>
<td>2000-01</td>
<td>232.451</td>
<td>307.987</td>
</tr>
<tr>
<td>2001-02</td>
<td>257.955</td>
<td>353.251</td>
</tr>
<tr>
<td>2002-03</td>
<td>313.344</td>
<td>574.694</td>
</tr>
<tr>
<td>2003-04</td>
<td>408.563</td>
<td>649.09812</td>
</tr>
<tr>
<td>2004-05</td>
<td>559.136</td>
<td>471.218</td>
</tr>
<tr>
<td>Average</td>
<td>239.90825</td>
<td>332.255343</td>
</tr>
<tr>
<td>SD</td>
<td>131.733</td>
<td>158.775</td>
</tr>
<tr>
<td>CV</td>
<td>54.9099443</td>
<td>47.78712533</td>
</tr>
</tbody>
</table>

Chart 4.9: Examination Expenditure
Table 4.13 Analysis of Examination expenditure of Saurashtra University and Gujarat University under study:

The Examination expenditure of Saurashtra University was ranged between the Rs. 559.136 in year 2004-05 to Rs. 98.364 in 1993-94 with an average of Rs. 239.908 lacs. The Exp. was Rs. 98.364 in 193.94 lacs which was increased to Rs. 174.833 lacs in year 1994-95 and Rs. 153.127 in year 1995-96, Rs. 155.595 in year.

The exp. was again raising Rs. 155.895 lacs in year 1996-97 to Rs. 559.136 lacs in year 2004.05 Thus it shows increased exp. trends from 1993-94 to 1994-95 but its. Slightly declined and went down Rs. 559.136 lacs in 2004-05. In last 5 years of study period the exam. exp. showed increasing trends. The S.D. was Rs. 239.908 very fluctuated from the average.

The Examination expenditure of Gujarat University was the highest of Rs. 471.218 in year 2004-05 and the lowest of 141.547 in 1993-94. The Exp. trends had been very fluctuated with an average of Rs 332.255 lacs. The exam. exp. was Rs. 141.547 lacs in year 1993-94 then it declined to average study period to 235.871 in 1998-99 and Rs. 471-218 in year 2004-05 but again it Rose Rs. 365.468 in year 1999-2000 to study period in year 2004-05.

The exam. trend in for the last in research period was inverter with the S.D. of Rs. 158.775 lacs.

It can be concluded that Saurashtra University and Gujarat University companied to expend more figure towards exam. exp. was very to Gujarat University.
Table 4.14: Trend analysis Examination Expenditure of Saurashtra University and Gujarat’s Studies from 1993-94 to 2004-05

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1994-95</td>
<td>176.724</td>
<td>136.339</td>
</tr>
<tr>
<td>1995-96</td>
<td>155.674</td>
<td>144.317</td>
</tr>
<tr>
<td>1996-97</td>
<td>158.488</td>
<td>167.185</td>
</tr>
<tr>
<td>1997-98</td>
<td>139.073</td>
<td>179.463</td>
</tr>
<tr>
<td>1998-99</td>
<td>174.554</td>
<td>166.638</td>
</tr>
<tr>
<td>1999-00</td>
<td>221.356</td>
<td>258.196</td>
</tr>
<tr>
<td>2000-01</td>
<td>236.317</td>
<td>217.586</td>
</tr>
<tr>
<td>2001-02</td>
<td>262.245</td>
<td>249.564</td>
</tr>
<tr>
<td>2002-03</td>
<td>318.556</td>
<td>406.009</td>
</tr>
<tr>
<td>2003-04</td>
<td>415.358</td>
<td>458.574</td>
</tr>
<tr>
<td>2004-05</td>
<td>568.436</td>
<td>332.906</td>
</tr>
</tbody>
</table>

Chart 4.10 Trend Examination Expenditure
Table 4.14: The trend analysis of examination expenditure of Saurashtra University and Gujarat’s Studies from 1993-94 to 2004-05

In Saurashtra University exam. exp. figure showed on increasing trends except year 1995-96 and 1997-98. The absolute Exam. Exp. of Saurashtra University was owed an increasing trend in average year of study period. It was trend in exam. exp. 100 in year 1993-94 and reached at Rs. 568.436 lacs in 2004-05.

In Gujarat University trends of average study period is increasing except year of 1998-99 and year 2000-2001 Then after increased to continue period of Research study. It indicate trend in Gujarat University is average increasing.

Examination Expenses (ANOVA Test)

Null Hypothesis:
There is no any significant difference in examination expenses of universities under study.

Alternative hypothesis:
There is significant difference in examination expenses of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
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<td>1</td>
<td>51167.91</td>
<td>2.404320798</td>
<td>4.300944</td>
</tr>
<tr>
<td>Within Groups</td>
<td>468196.3</td>
<td>22</td>
<td>21281.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>519364.2</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Since $F_{\text{cal}} < F_{\text{critical}}$ (at 5% significance level), the null hypothesis is accepted and hence it is concluded that the examination expenses of SU and GU does not differ significantly.

5) **Analysis of P.G. Education and Research Expenditure:**

Post Graduate Education and research expenses includes the Expenses incurred in various departments of Sample University like traveling expenses, Students studies tour, Laboratory chemical etc.

**Table 4.16 : P.G. Education & Research Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>12.747</td>
<td>231.47</td>
</tr>
<tr>
<td>1994-95</td>
<td>33.983</td>
<td>256.258</td>
</tr>
<tr>
<td>1995-96</td>
<td>40.88</td>
<td>267.89</td>
</tr>
<tr>
<td>1996-97</td>
<td>39.571</td>
<td>312.726</td>
</tr>
<tr>
<td>1997-98</td>
<td>45.753</td>
<td>317.144</td>
</tr>
<tr>
<td>1998-99</td>
<td>46.648</td>
<td>404.304</td>
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<td>1999-00</td>
<td>67.083</td>
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<td>2000-01</td>
<td>59.79</td>
<td>614.577</td>
</tr>
<tr>
<td>2001-02</td>
<td>66.723</td>
<td>559.381</td>
</tr>
<tr>
<td>2002-03</td>
<td>76.862</td>
<td>535.373</td>
</tr>
<tr>
<td>2003-04</td>
<td>71.108</td>
<td>528.037</td>
</tr>
<tr>
<td>2004-05</td>
<td>187.156</td>
<td>536.01</td>
</tr>
<tr>
<td>Average</td>
<td>62.35866667</td>
<td>432.2305833</td>
</tr>
<tr>
<td>SD</td>
<td>43.358</td>
<td>148.695</td>
</tr>
<tr>
<td>CV</td>
<td>69.52975975</td>
<td>34.40169616</td>
</tr>
</tbody>
</table>
Table – 4.16 P.G. Education and Research Expenditure of Saurashtra University and Gujarat University Studies from 1993-94 to 2004-05

The expenditure of Saurashtra University was ranged between the Rs. 187.156 lacs in year 2004-05 to Rs. 12.474 lacs in 1993-94 with an average of Rs. 62.359 lacs. The exp. was Rs. 12.474 lacs in 1993-94 which was increased to Rs. 40.88 lacs in 95-96 and Rs. 45.753 in 1997-98 and Rs. 76.862 in year 2002-03 and Rs. 187.156 lacs in year 2004-05 Thus it shows increased exp. trends from 1993-94 to 1995-96 but slightly declined and went down of Rs. 39.571 in year 1996-97 Rs. 59.79 Lacs in year 2000-01 and Rs. 71.108 in year 2003-04 In last 4 years of Research study period the exp. showed fluctuated. The S.D. was Rs 43.358 lacs very fluctuated from the average.

The Exp. of Gujarat University was the highest of Rs. 622.597 lacs in year 1999-2000 and lowest of Rs. 231.47 lacs in year 1993-94. The expo. trends had been very fluctuated with an average of Rs. 432.231 lacs. The exp. was Rs. 231.47 lacs in year 1993-94. Then it declined to Rs. 559.381 lacs in year 2001-
02 and Rs. 528.037 lacs in year 2003-04. So finally observed that it was very slightly high up. The trend in exp. for the last in research period was increased with the S.D. Rs. 148.695 lacs.

It can be concluded that there were no any uniform pattern in this expenses of Saurashtra University & Gujarat University.

Table 4.17: Trend analysis of P.G. Education & Research Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>100</td>
<td>100</td>
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<tr>
<td>1994-95</td>
<td>1403.453</td>
<td>98.58</td>
</tr>
<tr>
<td>1995-96</td>
<td>602.737</td>
<td>99.199</td>
</tr>
<tr>
<td>1996-97</td>
<td>748.411</td>
<td>114.727</td>
</tr>
<tr>
<td>1997-98</td>
<td>363.533</td>
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<td>1998-99</td>
<td>1137.852</td>
<td>183.505</td>
</tr>
<tr>
<td>1999-00</td>
<td>2418.603</td>
<td>152.846</td>
</tr>
<tr>
<td>2000-01</td>
<td>2074.303</td>
<td>210.069</td>
</tr>
<tr>
<td>2001-02</td>
<td>1754.929</td>
<td>298.28</td>
</tr>
<tr>
<td>2002-03</td>
<td>1685.188</td>
<td>161.338</td>
</tr>
<tr>
<td>2003-04</td>
<td>2756.396</td>
<td>188.229</td>
</tr>
<tr>
<td>2004-05</td>
<td>2148.444</td>
<td>163.242</td>
</tr>
</tbody>
</table>
Table 4.17: Trend Analysis in P.G. Education & Research Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

In Saurashtra University exp. figure showed an increasing trend except year. 1996-97, 2000-01 and 2003-04. The absolute exp. of Saurashtra University showed an increasing trend in average research study period. It was trends in exp. 100 in year 1993-94 and reached at Rs. 1468.236 lacs in year 2004-05.

In Gujarat University trends of average study of research period is slightly fluctuated. Trend study is 100 in year 1993-94 to increasing Rs. 269.407 in year 1999-2000. Thenafter very slow growth tread in P.G. exp. in 4 years. It indicate that trends in Gujarat University is very fluctuated.
PG Education and Research Expenses (ANOVA Test)

Null Hypothesis:
There is no any significant difference in PG Education and Research Expenses of universities under study.

Alternative hypothesis:
There is significant difference in PG Education and Research Expenses of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23

ANOVA Table 4.18:

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
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<td>820831.4</td>
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<td>820831.4</td>
<td>68.43112734</td>
<td>4.30944</td>
</tr>
<tr>
<td>Within Groups</td>
<td>263890</td>
<td>22</td>
<td>11995</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1084721</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table no. 4.18 indicates there was significant difference in PG Education and Research Expenses under study because the calculated value of ‘F’ was higher than table value so, null hypothesis is rejected and alternative hypothesis accepted. It can be concluded that both universities PG Education and Research Expenses trends are highly deviated.

6) Analysis of Library Expenditure:
Library Expenses includes purchase of books and periodical bindings, printing and stationary, electricity of library, furniture and equipment repairs, Subscription of periodicals etc. were consider under this head for purpose of anaysis.
Table 4.19: Library Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>0.6137</td>
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<tr>
<td>1994-95</td>
<td>8.613</td>
<td>28.315</td>
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<tr>
<td>1995-96</td>
<td>3.699</td>
<td>28.493</td>
</tr>
<tr>
<td>1996-97</td>
<td>4.593</td>
<td>32.953</td>
</tr>
<tr>
<td>1997-98</td>
<td>2.231</td>
<td>63.153</td>
</tr>
<tr>
<td>1998-99</td>
<td>6.983</td>
<td>52.708</td>
</tr>
<tr>
<td>1999-00</td>
<td>14.843</td>
<td>43.902</td>
</tr>
<tr>
<td>2000-01</td>
<td>12.73</td>
<td>60.338</td>
</tr>
<tr>
<td>2001-02</td>
<td>10.77</td>
<td>85.675</td>
</tr>
<tr>
<td>2002-03</td>
<td>10.342</td>
<td>46.341</td>
</tr>
<tr>
<td>2003-04</td>
<td>16.916</td>
<td>54.065</td>
</tr>
<tr>
<td>2004-05</td>
<td>13.185</td>
<td>46.888</td>
</tr>
<tr>
<td>Average</td>
<td>8.793225</td>
<td>47.6295</td>
</tr>
<tr>
<td>SD</td>
<td>5.227</td>
<td>17.177</td>
</tr>
<tr>
<td>CV</td>
<td>59.44393712</td>
<td>36.06280918</td>
</tr>
</tbody>
</table>

Table 4.19 Library Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

The Exp. of Saurashtra University has ranged between the Rs. 16.916 lacs in year 2003-04 to Rs. 0.614 Lacs in year 1993-94 with an average of Rs. 8.793 lacs. The exp. was Rs. 0.614 lacs in 1993-94 which was increased to Rs.8.613 lacs in year 1994-95 Rs. 14.893 lacs in year 1999-2000, Rs. 16.916 lacs in year 2003-04. Thus it shows increasing exp. trends from 1993-94 to year 1994-95 but so change flustered study period. In last 4 years of study period the exp. shoused increased trends, and last study year 2004-05 was declined. The S.D. was very fluctuated from the average of Rs. 8.793 lacs.

The exp. of Gujarat University was the lightest of Rs. 85.675 lacs in 2001-02. and the lowest of Rs 28,315 in year 1994-95. The exp., trends had been very
fluted with an average of 47.629. The exp. was 28.723 in year 1993-94 then it declined Rs. 28.315 lacs in year 1994-95 but again it rose Rs. 32.953 lacs in year 1996-97, Rs. 63.153 lacs in year 1997-98 Rs. 60.388 lacs in year 2000-01 and reached at Rs 85.675 lacs in year 2001-02. Then after the exp. went down to Rs. 28.315 lacs in year 1994-95, Rs. 52.708 lacs in 1998-99 Rs. 43.902 lacs in years 1999-2000 and Rs. 46.888 lacs in year 2004-05. The trend in exp. for the last in research period was increased with the S.D. of Rs. 17.177 lacs.

According to above analysis the average exp. of the Gujarat University was more then the Saurashtra University. The trend of the with of the University were fluctuated.

Table 4.20 : Trend Analysis Library Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
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<td>100</td>
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<td>1994-95</td>
<td>1403.454</td>
<td>98.58</td>
</tr>
<tr>
<td>1995-96</td>
<td>602.737</td>
<td>99.199</td>
</tr>
<tr>
<td>1996-97</td>
<td>748.411</td>
<td>114.727</td>
</tr>
<tr>
<td>1997-98</td>
<td>363.533</td>
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<td>1998-99</td>
<td>1137.852</td>
<td>183.505</td>
</tr>
<tr>
<td>1999-00</td>
<td>2418.608</td>
<td>152.846</td>
</tr>
<tr>
<td>2000-01</td>
<td>2074.303</td>
<td>210.069</td>
</tr>
<tr>
<td>2001-02</td>
<td>1754.929</td>
<td>298.28</td>
</tr>
<tr>
<td>2002-03</td>
<td>1685.188</td>
<td>161.338</td>
</tr>
<tr>
<td>2003-04</td>
<td>2756.396</td>
<td>188.229</td>
</tr>
<tr>
<td>2004-05</td>
<td>2148.444</td>
<td>163.242</td>
</tr>
</tbody>
</table>
Table 4.20: Trend Analysis in Library Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

In Saurashtra University exp. figure showed an increasing trend except year 1995-96 year 1997-98 year 2000-01 year 2004-05. The absolute exp. of Saurashtra University was showed an increasing trend in average research study period It was trends in exp. 100 in year 1993-94 and reached at Rs. 2756.396 lacs in year 2003-04.

In Gujarat University trends of average study of research period is slightly fluted. Trend study is 100 in year 1993-94 to increasing Rs. 298.280 lacs in year 2001-02. Thenafter very slow growth trending library exp. in 4 years. It conclude that trends in Gujarat University is very fluctuated.

Library Expenses (ANOVA Test)

Null Hypothesis:
There is no any significant difference in Library Expenses of universities under study.
Alternative hypothesis:
There is significant difference in Library Expenses of universities under study.
Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>9049.538</td>
<td>1</td>
<td>9049.538</td>
<td>56.14635195</td>
<td>4.300944</td>
</tr>
<tr>
<td>Within Groups</td>
<td>3545.908</td>
<td>22</td>
<td>161.1777</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12595.45</td>
<td>23</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Since $F_{cal} > F$ critical (at 5% significance level), the null hypothesis is rejected and alternative hypothesis is accepted and hence it is concluded that the library expenses of SU and GU does differ significantly.

8) Analysis of Publication Expenditure:

Data on all Publication Expenditure of Saurashtra University and Gujarat University Separately. So purposes of analysis all Publication Expenditure figure are consider here Income. In order to identify the Publication Expenditure in the Expenditure and Revenues under the head of Income and Expenditure are considered.
Table 4.22 : Publication Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1993-94</td>
<td>0.449</td>
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<tr>
<td>1994-95</td>
<td>0.1</td>
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<tr>
<td>1995-96</td>
<td>0.195</td>
<td>36.335</td>
</tr>
<tr>
<td>1996-97</td>
<td>0.376</td>
<td>34.543</td>
</tr>
<tr>
<td>1997-98</td>
<td>0.405</td>
<td>36.989</td>
</tr>
<tr>
<td>1998-99</td>
<td>0.505</td>
<td>47.68</td>
</tr>
<tr>
<td>1999-00</td>
<td>0.505</td>
<td>53.803</td>
</tr>
<tr>
<td>2000-01</td>
<td>0.5</td>
<td>45.225</td>
</tr>
<tr>
<td>2001-02</td>
<td>0.5</td>
<td>44.949</td>
</tr>
<tr>
<td>2002-03</td>
<td>0.5</td>
<td>44.659</td>
</tr>
<tr>
<td>2003-04</td>
<td>0.22</td>
<td>55.835</td>
</tr>
<tr>
<td>2004-05</td>
<td>0.298</td>
<td>78.774</td>
</tr>
<tr>
<td>Average</td>
<td>0.379416667</td>
<td>45.1393333</td>
</tr>
<tr>
<td>SD</td>
<td>0.143</td>
<td>13.347</td>
</tr>
<tr>
<td>CV</td>
<td>37.67753034</td>
<td>29.56863531</td>
</tr>
</tbody>
</table>

Table – 4.22 Publication Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

The exp. of Saurashtra University was ranged between the Rs. 0.505 lacs in year 1999-2000 to Rs. 0.1 lacs in year 1994-95 with an average of 0.37941 lacs. The exp. was Rs. 0.1 lacs in year 1994-95 which was increasing Rs. 0.405 in year 1997-98, Rs. 0.505 lacs in year 1999-2000. The exp. was declined after 5 years. Thus it shours increased Exp. trends from 1993-94 to year 2002-03 continuously.

The S.D. is Rs. 0.143 lacs was very fluctuated from average.

The Exp. of Gujarat University was the lighest of Rs 78.774 lacs in year 2004-05 and lowest of Rs. 30.918 lacs in year 1993-94. The exp. trends had been very fluctuated with an average of Rs. 45.13933 lacs. The exp. was Rs. 30.918 lacs in year. 1993-94 then it always increasing trend upto. Research
study period year 2004-05. Then after the exp. went down to Rs. 45.225 lacs in year 2000-01, Rs. 44.941 lacs in year 2001-02 and Rs. 44.659 lacs in year 2002-03.

The trend in exp. for the last in research study period was increased with the S.D. Rs. 13.347 lacs.

It can be observed that there were no any uniform pattern in this publication exp. of Research study of Saurashtra University & Gujarat University.

Table : 4.23 Publication Expenditure Trend of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
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</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1994-95</td>
<td>22.272</td>
<td>103.377</td>
</tr>
<tr>
<td>1995-96</td>
<td>43.43</td>
<td>117.521</td>
</tr>
<tr>
<td>1996-97</td>
<td>83.742</td>
<td>111.725</td>
</tr>
<tr>
<td>1997-98</td>
<td>90.2</td>
<td>119.636</td>
</tr>
<tr>
<td>1998-99</td>
<td>112.472</td>
<td>154.214</td>
</tr>
<tr>
<td>1999-00</td>
<td>112.472</td>
<td>174.018</td>
</tr>
<tr>
<td>2000-01</td>
<td>111.359</td>
<td>146.274</td>
</tr>
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<td>2001-02</td>
<td>111.359</td>
<td>145.381</td>
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<td>2002-03</td>
<td>111.359</td>
<td>144.443</td>
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<td>2003-04</td>
<td>48.998</td>
<td>180.591</td>
</tr>
<tr>
<td>2004-05</td>
<td>66.37</td>
<td>254.784</td>
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</table>
Table-4.23 Trends Analysis in Publication Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

In Saurashtra University publication end figure showed and increasing trend except year 2003-04. The absolute publication exp. of Saurashtra University was showed an increasing trend in average research study period from year 1993-94 to 2004-05. It was trends in publi. exp. 100 in year 1993-94 and reached at Rs. 112.472 lacs in year 1998-99 and 1999-2000.

In Gujarat University trends of average study of Research is very fluctuated. Trend study is 100 in 1993-94 to increasing Rs. 254.784 lacs in year 2004-05 thenafter, very slightly trend increase in research study period.

It observe trends in Gujarat University is very increasing.
Publication Expenses (ANOVA Test)

Null Hypothesis:
There is no any significant difference in Publication Expenses of universities under study.

Alternative hypothesis:
There is significant difference in Publication Expenses of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>12020.7</td>
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<td>12020.7</td>
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<td>4.300944</td>
</tr>
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<td>Within Groups</td>
<td>1959.816</td>
<td>22</td>
<td>89.08256</td>
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<td>Total</td>
<td>13980.52</td>
<td>23</td>
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</table>

It is evident from table 4.24 that the difference between publication expenses in between groups and within groups was significant because the calculated value of ‘F’ (134.94) was higher than the critical value of ‘F’ (4.30) so, null hypothesis is rejected and alternative hypothesis is accepted. So, it indicates a high deviation in publication expenses of universities under study.

9) Analysis of other expenditure:

Other Expenditure includes expenditure of publication, pension, health centre expenses, computer, extra curriculum etc. are consider under this head for the purpose of analysis.
Table 4.25: Other Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
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<tr>
<th></th>
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<tbody>
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<td>14.52</td>
<td>93.312</td>
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<td>1996-97</td>
<td>10.417</td>
<td>118.589</td>
</tr>
<tr>
<td>1997-98</td>
<td>17.636</td>
<td>82.409</td>
</tr>
<tr>
<td>1998-99</td>
<td>18.668</td>
<td>117.026</td>
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<tr>
<td>1999-00</td>
<td>23.668</td>
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</tr>
<tr>
<td>2000-01</td>
<td>18.808</td>
<td>114.168</td>
</tr>
<tr>
<td>2001-02</td>
<td>19.269</td>
<td>122.603</td>
</tr>
<tr>
<td>2002-03</td>
<td>2.908</td>
<td>120.347</td>
</tr>
<tr>
<td>2003-04</td>
<td>20.605</td>
<td>77.892</td>
</tr>
<tr>
<td>2004-05</td>
<td>17.32</td>
<td>957.108</td>
</tr>
<tr>
<td>Average</td>
<td>15.48916667</td>
<td>200.1346667</td>
</tr>
<tr>
<td>SD</td>
<td>5.897</td>
<td>250.963</td>
</tr>
<tr>
<td>CV</td>
<td>38.06984072</td>
<td>125.3970795</td>
</tr>
</tbody>
</table>

Chart 4.17 Other Expenditure
The other exp. of Saurashtra University was ranged between the Rs., 23.668 lakhs in year 1999-2000 to Rs. 7.766 lacs in year 1993-94 with an average of rs. 15.489166 lacs. The exp. was Rs. 7.766 lacs in year 1993-94 which was increased to Rs. 14.52 lacs in year 1994-95 Rs. 14.285 lacs in year 1995-96. The exp. was again raising Rs. 17.676 in year 1997-98 to Rs. 23.668 lacs in year 1999-2000. Thus it show increased exp. trends from 1993-94 to 1999-2000 but its slightly declined and went down Rs. 20.605 lacs in year 2003-04 In year 2002-03 was Rs. 2.908 lacs is very decline but last year of research period in increasing trend. The S.D. is 5.897 is was very fluctuated from the average.

The exp. of Gujarat University the highest of Rs. 957.108 las in 2004-05 and west of Rs. 82.409 lacs in year 1997-98. The exp. trends had been very flexural with an average of 200.1347. The exp. was Rs. 374.44 lacs in 1993-94 then it declined to Rs. 93.312 lacs in 1994-95 but again to rose 1996-97, 98-99, 99-00, 2000-01 and upto research study period year 2004-05. The trend in exp. for the last in research period was increased with an standard devn. Rs. 250.963 lacs.

It can be observed that research no any uniform in this other exp. of Saurashtra University and Gujarat University.

Table – 4.25 Other Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005
Table 4.26: Trend Analysis of Other Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>100</td>
<td>100</td>
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<tr>
<td>1994-95</td>
<td>186.969</td>
<td>24.922</td>
</tr>
<tr>
<td>1995-96</td>
<td>183.943</td>
<td>26.589</td>
</tr>
<tr>
<td>1996-97</td>
<td>134.136</td>
<td>31.673</td>
</tr>
<tr>
<td>1997-98</td>
<td>227.092</td>
<td>22.01</td>
</tr>
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<td>1998-99</td>
<td>240.381</td>
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<td>1999-00</td>
<td>304.764</td>
<td>33.168</td>
</tr>
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<td>2000-01</td>
<td>242.184</td>
<td>30.492</td>
</tr>
<tr>
<td>2001-02</td>
<td>248.12</td>
<td>32.745</td>
</tr>
<tr>
<td>2002-03</td>
<td>37.445</td>
<td>32.142</td>
</tr>
<tr>
<td>2003-04</td>
<td>265.323</td>
<td>20.803</td>
</tr>
<tr>
<td>2004-05</td>
<td>223.023</td>
<td>255.623</td>
</tr>
</tbody>
</table>

Chart 4.18 Other Expenditure Trend
Table – 4.26 Trends Analysis in Other Expenditure of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

In Saurashtra University other exp. figure showed an increasing trend except year 2002-03. The absolute other exp. of Saurashtra University was showed an increasing trend in average research study period from year 1993-94 to 2004-05. It was trends in other exp. 100 in year 1993-94 and reached at Rs. 304.764 lacs in year 1999-2000.

In Gujarat University trends of average study of research is very fluctuated. Trend study is 100 in 1993-94 to increasing Rs. 255.623 lacs in year. 2004-05. Thenafter very slightly trend increased.

It observe trends in Gujarat University is very slight increasing.

Other Expenses (ANOVA Test)

Null Hypothesis:
There is no any significant difference in Other Expenses of universities under study.

Alternative hypothesis:
There is significant difference in Other Expenses of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23

ANOVA Table 4.27

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>204563.8</td>
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<td>204563.8</td>
<td>6.492314001</td>
<td>4.300944</td>
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<tr>
<td>Within Groups</td>
<td>693189.3</td>
<td>22</td>
<td>31508.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>897753.1</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
From the above table, it is clear that difference in between groups and within groups was significant because the calculated value of ‘F’ (6.49) was higher than the table value of ‘F’ (4.30). Analysis indicates that there were no similarities in other expenses of universities understudy.

10) Analysis of State Government Grants:

Data on all State government grants of Saurashtra University and Gujarat University Separately. So purpose of analysis all State government grants figure are consider here State government grants.

**Table 4.28 : State Govt. Grants of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Rs. In Lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>25.72</td>
</tr>
<tr>
<td>1994-95</td>
<td>25.72</td>
</tr>
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<td>1998-99</td>
<td>8.36</td>
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<td>1999-00</td>
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<tr>
<td>2000-01</td>
<td>8.36</td>
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<tr>
<td>2001-02</td>
<td>8.94</td>
</tr>
<tr>
<td>2002-03</td>
<td>9.45</td>
</tr>
<tr>
<td>2003-04</td>
<td>13.22</td>
</tr>
<tr>
<td>2004-05</td>
<td>40.46</td>
</tr>
<tr>
<td>Average</td>
<td>17.36583333</td>
</tr>
<tr>
<td>SD</td>
<td>10.820</td>
</tr>
<tr>
<td>CV</td>
<td>62.30566465</td>
</tr>
</tbody>
</table>
Table 4.28 State Govt. Grants of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

The govt. grants of Saurashtra University was ranged between the Rs. 40.46 in year 2004-05 to 25.72 in 1993-94, with an average of Rs. 17.3658 lacs. The exp. was Rs. 25.72 lacs in 1993-94 which was increased equality parraled year 1996-97. The govt. grant was against raising Rs. 40.46 lacs in year 2004-05.

Thus it shows increased govt. grants trends from 1994-95 to year 1996-97 but its declined and went down Rs. 40.46 lacs in year 2004-05. In last 3 years of study period the govt. grants. Showed increased trends. The S.D. is Rs. 10.820 lacs was very fluctuated from the average.

The govt grants of Gujarat University was the highest of Rs. 1313.01 lacs in year 2002-03 and the lowest of Rs. 462.974 in year 1993-94. The govt. grants trends had been very fluctuated with an average of Rs. 865.2786 lacs. The govt. grands was Rs. 462.974 lacs in year 1993-94 then it increasing in 1313.01 lakhs
in 2002-03. Then after the govt. grants went down to slight decling trends in last 4 years.

The trend in govt. grants for the last in research study period was increased with the S.D. of Rs. 297.543 lacs its can be conclude that there were no any uniform in the govt. grants of Saurashtra University and Gujarat University.

Table 4.29 : Trend Analysis of State Govt. Grants of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<tbody>
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<td>1993-94</td>
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<td>1997-98</td>
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<td>1998-99</td>
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<td>32.504</td>
<td>210.227</td>
</tr>
<tr>
<td>2000-01</td>
<td>32.504</td>
<td>230.68</td>
</tr>
<tr>
<td>2001-02</td>
<td>34.759</td>
<td>247.065</td>
</tr>
<tr>
<td>2002-03</td>
<td>36.742</td>
<td>283.603</td>
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<tr>
<td>2003-04</td>
<td>51.4</td>
<td>260.514</td>
</tr>
<tr>
<td>2004-05</td>
<td>157.309</td>
<td>226.864</td>
</tr>
</tbody>
</table>
Table-4.29 Trend Analysis in State Govt. Grants of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

In Saurashtra University Govt. grants figure showed an increasing trend except year 1997-98 to 2001-2002. The absolute govt. grants of Saurashtra University was showed an increasing trend in average research study period from year 1993-94 to 2004-05. It was trends in govt. grants trend 100 in year 93-94 and reached at Rs. 17.309 lacs in years 2004-05.

In Gujarat University trends of average study period is very fluctuated. Trends study is 100 in year 1993-94 to increasing Rs. 283.603 lacs in year 2002-03. Thenafter very slow growth trend in govt. grants in a study period. It conclude that trends in Gujarat University is very fluctuated.
State Government Grants (ANOVA Test)

Null Hypothesis:
There is no any significant difference in State Government Grants of universities under study.

Alternative hypothesis:
There is significant difference in State Government Grants of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23

ANOVA Table 4.30

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
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</thead>
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<td>4332979.785</td>
<td>97.7075339</td>
<td>4.300944</td>
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<td>Within Groups</td>
<td>975621.3</td>
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<td>44346.42462</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5308601</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.30 indicates there was significant difference in state government grants received by the universities under study because the calculated value of ‘F’ was higher than table value so, null hypothesis is rejected and alternative hypothesis accepted. It can be concluded that grants received by both the universities are significantly differ.

11) Analysis of University Grant Commission:

Data on all University Grant Commission of Saurashtra University and Gujarat University Separately. So purpose of analysis all University grants commission figure are consider here university grants commission.
Table 4.31: UGC grant of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
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<tr>
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<td>1993-94</td>
<td>75.7</td>
<td>59.855</td>
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<tr>
<td>1994-95</td>
<td>71.93</td>
<td>83.909</td>
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<td>1995-96</td>
<td>74.31</td>
<td>46.22</td>
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<tr>
<td>1996-97</td>
<td>109.19</td>
<td>48.233</td>
</tr>
<tr>
<td>1997-98</td>
<td>47.08</td>
<td>177.837</td>
</tr>
<tr>
<td>1998-99</td>
<td>63.635</td>
<td>146.896</td>
</tr>
<tr>
<td>1999-00</td>
<td>137.1</td>
<td>139.414</td>
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<td>2000-01</td>
<td>183.54</td>
<td>70.683</td>
</tr>
<tr>
<td>2001-02</td>
<td>133.36</td>
<td>159.378</td>
</tr>
<tr>
<td>2002-03</td>
<td>73.09</td>
<td>145.689</td>
</tr>
<tr>
<td>2003-04</td>
<td>133.702</td>
<td>726.86</td>
</tr>
<tr>
<td>2004-05</td>
<td>161.49</td>
<td>269.142</td>
</tr>
</tbody>
</table>

SD: Sau. Uni. 43.706, Guj. Uni. 186.259

Chart 4.21: UGC Grant
Table No. 4.31 U.G.C. Grants of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

The UGC grants of Saurashtra University was ranger between the Rs. 183.54 lacs in year 2000-01 to 75.7 in year 1993-94 with an average of Rs. 105.3439. The UGC Grants was Rs. 75.7 in year 1993-94 which was increased to 109.19 in year 1996-97, Rs. 137.1 in year 1999-00, 1832.54 in year 2000-01. The UGC grants was again raising to Research study period from year 1993-94 to year 2004-05 but its slightly declined and went down Rs. 161.49 in year 2004-05. In last 3 years of study period the UGC grants showed increased trends. The S.D. is 43.706 was very flustered from the average.

The UGC grant of Gujarat University was the highest of Rs 726.86 lacs in year 2003-04 and lowest of Rs. 46.22 lacs in year 1995-96. The UGC grants trends had been very fluctuated with an average of Rs. 176.843. The UGC grants was Rs. 59.855 in year 1993-94 then it declined to 46.22 in year 1995-96 but again it rose Rs., 177.837 lacs in years 1997-98. Then after the UGC grants went down 260.142 in year 2004-2005. The trend in UGC grant for last in study period was very fluctuated with S.D. of Rs. 186.259 lacs.

It can be observe thought there was no any uniform in the UGC grants of S.U. & G.U.
Table 4.32: Trend analysis of UGC grant of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
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<tbody>
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<td>1996-97</td>
<td>144.24</td>
<td>80.583</td>
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<tr>
<td>1997-98</td>
<td>62.193</td>
<td>297.113</td>
<td></td>
</tr>
<tr>
<td>1998-99</td>
<td>84.062</td>
<td>245.42</td>
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<td>1999-00</td>
<td>181.11</td>
<td>232.92</td>
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<td>2000-01</td>
<td>242.457</td>
<td>118.09</td>
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</tr>
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<td>2001-02</td>
<td>176.168</td>
<td>266.273</td>
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</tr>
<tr>
<td>2002-03</td>
<td>96.552</td>
<td>243.403</td>
<td></td>
</tr>
<tr>
<td>2003-04</td>
<td>176.621</td>
<td>1214.368</td>
<td></td>
</tr>
<tr>
<td>2004-05</td>
<td>213.329</td>
<td>449.657</td>
<td></td>
</tr>
</tbody>
</table>

Chart 4.22: UGC Grant Trend

- **Sau. Uni.**
- **Guj. Uni.**
Table No. 4.32 Trend Analysis in UGC of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

In Saurashtra University UGC grants figure showed an increasing trend except year 1997-98, 1998-99 & 2002-2003. The absolute figure UGC grants of Saurashtra University was showed an increasing trend in average study period from year 1993-94 to year 2004-05 it was trends in UGC grants from 100 in year 1993-94 and reached at Rs. 213.329 lacs in years 2004-2005.

In Gujarat University trends of average study period is very fluctuated. Trend study is 100 in year 1993-94 to increasing Rs. 1214.368 in year 2003-04. Thenafter very high growth trending UGC grants in a study period. It conclude that trends in Gujarat University is very high fluctuated.

UGC Grant (ANOVA Test)

Null Hypothesis:
There is no any significant difference in UGC Grant of universities under study.

Alternative hypothesis:
There is significant difference in UGC Grant of universities under study.

Level of Significance: 5 percent

Critical value: 4.300

Degree of freedom: 23

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>27336.7571</td>
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<td>27336.76</td>
<td>1.493707</td>
<td>4.300944</td>
</tr>
<tr>
<td>Within Groups</td>
<td>402628.2324</td>
<td>22</td>
<td>18301.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>429964.9899</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since F cal < F critical (at 5% significance level), the null hypothesis is accepted and hence it is concluded that the UGC Grants received by SU and GU does not differ significantly.
Conclusion:

As per as total expenditure is concerned Saurashtra university having more total expenditure compared to Gujarat university is leading. Gujarat University having deficit while Saurashtra University is more deficit.

Saurashtra University is doing more expenditure on salary and office administration compared to the Gujarat University. The fees that is collected by Gujarat university is compared to the Saurashtra university examination, PG education & research Library, Publications and other expenditure is more compared to Saurashtra university. Gujarat University received more grants from state government as well as the UGC grants compared to Saurashtra University.

To, include, if the efforts are directly towards considering actively the aforementioned approaches and suggestion, the Saurashtra University and Gujarat University will very screen out of the financial stress and at the same time would be able to serve the society still better Cost behavior pattern. It may be that the favorable consideration may demand further several types of exercises by way of changing certain rules and procedures and amending certain ordinance, but then researcher has to bear these as a cost behavior pattern of Saurashtra University compared to Gujarat University Improvement.
References:

1. Qumar Furqan (1996), Financial Control in Indian Universities, New Delhi, A Namika Publishers & Distributors (p) Ltd.
2. Shri Prakashan and Chaudhary Sumitra (1994), Education Expenditure theory model and growth New Delhi, NIEPA.
4. Dr. srinivas gondhalkar and Dr. uday salunkhe- productivity techniques, 2002 title page.
5. devid j. sumannth – productivity engineering and mgt.
CHAPTER – 5
ANALYSIS OF COST EFFECTIVENESS AND PRODUCTIVITY

5.1 Introduction.
5.2 Cost Effectiveness on Productivity of Sample University.
5.3 Revenues of Universities under Study.
5.4 Partial Labour Efficiency of Universities.
5.5 Measurement of partial labour productivity of Universities.
5.6 Analysis of Cost Effectiveness and Productivity of Sample University.
5.7 Conclusion.
CHAPTER – 5

5.1 Introduction:

Educational system has evolved through the ages, changing with the needs of the society from time to time. India’s Gurukul system, when money was not playing a jajot role in imparting education, is now a matter of history. Today, universities throughout the world are facing increased financial crisis, mainly due to declining state support. Tilak (1993) reviewed a series of studies on university finances carried out on the initiative of ICSSR and UGC and also some other studies conducted independently on university finances in the decades of the 1970s and 1980s which clearly highlighted the financial position of the universities in India during this period as one of the shrinking resource base leading to a crisis situation. A good number of universities are in deficit and many of them are rather in a continuous deficit (Tilak and Rani 2000). Most of the recent studies (Kiranmayi (1998), AIU (1991), Tilak and Varghese (1991), Tilak (1973, 1997a) besides others, in the wake of utilization of resources and aspects relating to financial management.

The problem has become more severe in India, especially after economic reform policies and serious budgetary constraints. There new economic policies demand high skilled manpower, on the hand, and, at the same time, inflict severe cuts in the budgets of education, in general, and higher education, in particular, on the other. The allotment to education, as a percentage of DNP, has declined steadily in recent years and, today stands at 3.5%. The share of higher education has been falling steadily. It was nearly 1% in 1980-81, which declined to nearly half by the early nineties and to less than 0.4% DNP in the mid-nineties (Power, 1998). In the Ninth plan also, the financial prospects of the higher education are not bright. Draft approach paper to the tenth Five year Plan (2002-07) also emphasizes that the universities must make greater efforts of supplement resources from government. To quote: “Part of the problem facing universities is the inadequate provision of budgetary resources from the government. Since budget resource are limited and such resources as are available, needs to be allocated to expanding primary education. It is
important to recognize that the universities must make greater efforts to supplement resources from the government". Punnaya committees (1992-93) of UGC funding of institutions of Higher Education recommended that while the Government / UGC may continue to be the major funding agency, the universities must generate internal resources, which should constitute at least 15% of the total recurring expenditure at the end of the first five years and at least 25% at the end of 10 years.

Two important issues emerge. First, what are the new or additional ways and means by which more resources could be tapped? And second, how efficient is the current management / utilization of the available resources (human, physical and financial)? These are discussed below more with reference to university finances that from academic point of view as much debate is still on about continuance of funding of Higher Education by the state.

The problem has become more sever in India, especially after economic reform policies and serious budgetary constraints. These new economic policies demand high skilled manpower, on the hand, and, at the same time, inflict severe cuts in the budgets of education, in particular, on the other. The allotment to education, as a percentage of DNP, has declined steadily in recent years and, today stands at 3.5%. The share of higher education has been falling steadily. It was nearly 1% in 1980-81, which declined to nearly half by the early nineties and to less than 0.4%

University is a non profitable organization. It aim is to spread education in the society it is believe that since universities related to education the matter income become less important. How ever development & sustenance certain amount of income is necessary. University gets income through grants donations membership fees etc.
5.2 Cost Effectiveness on Productivity of Sample University:

**Income Recurring:**

**Grants:**
1. Central Government
2. UGC
3. State Government
4. Local Boards
5. Total Grants

**Fee Income**
1. tuition Fee Including Lab. Fee
2. Hostel Fee
3. Examination Fee
4. Other Fee
5. Total Fee Income

**Other Sources:**
1. Endowments
2. Other Sources
3. Total Other Sources
4. Total Recurring Income amount in Rupees.

**Income Non-Recurring Grants:**
1. Central Government
2. UGC
3. State Government
4. Total Non-Recurring Income amount in Rupees
5. Total Recurring (Amount in Rs.) Non-Recurring Income.
6. Incomes from Scholarships, stipends Sources from other than University.
7. Central Government
8. UGC
9. State Government
10. Other Source
11. Total Income from Scholarships, stipends sources from other than University
12. Grand Total Amount in Rupees

5.3 REVENUES OF UNIVERSITIES UNDER STUDY:

Revenue:

For a service sector, this is the total amount of money received by the company for goods sold or services provided during a certain time period. It also includes all net sales, exchange of assets; interest and any other increase in owner’s equity and is calculated before any expenses are subtracted. Net income can be calculated by subtracting expenses from revenue. In terms of reporting revenue in a company’s financial statements, different companies consider revenue to be received, or “recognize”, different ways. For example, revenue could be recognize when a deal is signed, when the money is received, when the services are provided, or at other times. There are rules specifying when revenue should be recognize in different situations for companies using different accounting methods such as case basis and accrual basis.

In present an attempt has been made to study the trend of various recurring income incurred in universities. Considering the availabilities of data and necessary information this study has classified all the income in the following heads in the sample universities.

1. Government Grants
2. Examination Fees
3. Post Graduate Department Fees
5.4 Partial Labour efficiency of Universities:

Labour cost representing the human contributing to production is an important factor, which requires a constant control and proper accounting. It is not Physical wealth which makes an organization stronger or richer but its human wealth—the reservoirs of human skill, talents and competence which continues to swell to higher and higher level. Materials and machines are animate objects and these resources are handled and operated by labour. Naturally it is man, or labour, who is the living force in the whole organization. It is the action and reasons of labour that accelerates or impedes pace of production.

Control accounting for human resources serves following purposes

1. Fuller utilization of human resources through more constant and more work flow.
2. Greater proficiency in operations.
3. Efficient supervision.
4. Feasibility of hiring people with limited backgrounds and of training them quickly in specific operations.
5. Greater ease in controlling individual output.
7. More uniformity in methods and procedures
8. Less duplication of efforts and
9. More continuous service and less possibility of interruption and delay.
• **Partial Labour Productivity Improvement Methods**: 

  In every case development of productivity requires the co-operation of the workers. Joseph M. Juran observed “Techniques for stimulating productivity have changed drastically in order to ‘keep pace with the changing from of industry…. Many managers are unwillingly applying to today’s problems, techniques designed to solve the problems of yesterday’s. Though there are several ways of improving labour productivity the following are most important ones.

  Avoiding lost time
  Non-productive time

• **Scrap and rectification and quality control**: 

  Manpower Planning: One of the primary reasons for low labor productivity is the poor manpower on the part of production manager. Consequently manpower planning in all it’s aspects must be introduced in manufacturing organisation as well.

• **Financial incentives**
  
  Piece rate system
  Standard hour rate
  Halsey system
  Rowan system
  Barth variable plan
  Bedaux plan
  Taylor’s differential piece rate

• **Financial incentives**: 

  There are several Individual financial incentives plans have been incorporated by the Service Organizations. some of these plans are Stated follow.

  Group bonus
  Profit sharing plan
  Target Plan
Saving Plan
Co-partnership scheme

Job enrichment is the process of redesigning a job in order to enlarge its scope and to give the worker more to do.

Flexi-time— an alternative work pattern

- **Quality of work life**
  - Labour-management co-operation
  - Collective bargaining
  - Participative management

- **Non-monetary benefits**
  - Canteens
  - Educational facilities
  - Financial assistance in respect of housing
  - Transportation facilities
  - Recreation facilities
  - Co-operative societies
  - Leave travel concession
  - Pension contribution
  - Free uniform

- **Employee promotion**:

  promotion is a financial and non-financial incentive to improve the labor productivity. It is recognizing of employees of skill, knowledge and faith toward the institution

  - Worker participation in management
  - Working condition improvement

  A detailed audit of working conditions at each level of operation
• **Designing improved conditions of working**

• **Time Management :**

  The time management always improves human productivity. It involves the minimization of the wasteful elements of person’s administrative works.

• **Other techniques :**

  By using the following conventional techniques labour productivity can be improved,
  
  ➢ Production planning
  ➢ Fatigue study
  ➢ Motion study
  ➢ Method study
  ➢ Better maintenance
  ➢ Improving material handling
  ➢ Improve shop floor control
  ➢ Value engineering and value analysis
  ➢ Improved and effective management of the organization

• **Co-operation of all section of the community**

• **Training :**

  Training helps preserve the previous experience and skill brings flexibility in manning, contributes new knowledge and skill, keeps people updated and trim, act as a motivator by adding in the growth of man and minimizes the labour turnover.

5.5 **Measurement of Partial Labour Productivity of university:**

  Labour productivity is an indicator of efficiency of employees is a factor. It refers to the quantity of output obtained for a given quantity of input. The quantity may be expressed in terms of quantity of output, sales value or cost and input in term of material used hours worked.
5.6 **Analysis of Cost Effectiveness and Productivity of sample university:**

1. Partial labour Productivity Includes Total Expenditure and Total Income of Salary and Office Administration of Saurashtra University and Gujarat University

2. Examination Efficiency Ratio Includes Total Expenditure and Total Income of Salary and Office Administration Of Saurashtra University and Gujarat University

3. Research and Development Efficiency Ratio Includes Total Expenditure and Total Income of Salary and Office Administration of Saurashtra University and Gujarat University

4. Cost Effectiveness of Per Students Ratio Includes Total Expenditure and Total Income of Salary and Office Administration of Saurashtra University and Gujarat University

5. Revenue Efficiency of University per Students Ratios Includes Total Expenditure and Total Income of Salary and Office Administration of Saurashtra University and Gujarat University

6. Total Productivity Includes Total Expenditure and Total Income of Saurashtra University and Gujarat

1) **Analysis of Partial Labour Productivity Ratios:**

   Data on salaries and office administration are based on related partial productivity on various figures are considered here as all data.
Table 5.1: Partial Labour productivity of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

Partial Labour Cost Productivity = Income / Expenses

<table>
<thead>
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</tr>
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<tr>
<td>1995-96</td>
<td>1.402</td>
<td>4.410</td>
</tr>
<tr>
<td>1996-97</td>
<td>1.386</td>
<td>4.764</td>
</tr>
<tr>
<td>1997-98</td>
<td>1.411</td>
<td>6.087</td>
</tr>
<tr>
<td>1998-99</td>
<td>1.334</td>
<td>5.678</td>
</tr>
<tr>
<td>1999-00</td>
<td>1.548</td>
<td>6.139</td>
</tr>
<tr>
<td>2000-01</td>
<td>2.097</td>
<td>6.743</td>
</tr>
<tr>
<td>2001-02</td>
<td>1.817</td>
<td>51.632</td>
</tr>
<tr>
<td>2002-03</td>
<td>2.035</td>
<td>9.172</td>
</tr>
<tr>
<td>2003-04</td>
<td>1.302</td>
<td>1.689</td>
</tr>
<tr>
<td>2004-05</td>
<td>0.880</td>
<td>1.708</td>
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<tr>
<td>Average</td>
<td>1.490154946</td>
<td>9.007012578</td>
</tr>
<tr>
<td>SD</td>
<td>0.342</td>
<td>13.576</td>
</tr>
<tr>
<td>CV</td>
<td>22.95407223</td>
<td>150.7325112</td>
</tr>
</tbody>
</table>

Chart 5.1: Partial Labour Productivity
The Partial Labour Productivity Ratio of Saurashtra University was ranged between the Rs. 2.097 lacs in year 2000-2001 to Rs. 1.392 lacs in year 1993-94 with an average of Rs. 1.490154 lacs. The ratio was Rs. 1.392 in year 1993-94 which was declined Rs. 1.392 lacs in year 1993-94 which was declined Rs. 1.278 lacs in year 1994-95. The ratio was raising to Rs. 1.402 lacs in year 1995-96 Rs. 1.097 in year. 2000-2001. Thus it shows increased trends ratio from the year 1995-96 to year 2000-01. In last 3 years of study period the ratio showed increased trends. The S.D. is Rs. 0.342 lacs was very fluctuated from the average.

The ratio of Gujarat University was the highest of Rs. 51.632 lacs in year 2001-02 and the lowest of Rs. 1.708 lacs in year 2004-05. The ratio trends had been very fluctuated with an average of Rs. 9.00701 lacs. The ratio was Rs. 4875 lacs in years 1993.94 then it increasing to Rs., 5.187 lacs in year 94-95 but again it rose Rs. 51.632 lacs in year 2001-2002.

Thenafter the ratio went down to Rs. 1.708 lacs in year 2004-05 but it was highly declined. The trends in labour ratio for the last in research period was fluctuating with the S.D. of Rs. 13.576 lacs.

It can be conclude that there were no any uniform in the partial labour productising ration of Saurashtra University & Gujarat University.
Table 5.2: Trend analysis of Partial Labour productivity of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Rs. In Lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>100</td>
</tr>
<tr>
<td>1994-95</td>
<td>91.81</td>
</tr>
<tr>
<td>1995-96</td>
<td>100.718</td>
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<tr>
<td>1996-97</td>
<td>99.568</td>
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<td>1997-98</td>
<td>101.364</td>
</tr>
<tr>
<td>1998-99</td>
<td>95.833</td>
</tr>
<tr>
<td>1999-00</td>
<td>111.207</td>
</tr>
<tr>
<td>2000-01</td>
<td>150.646</td>
</tr>
<tr>
<td>2001-02</td>
<td>130.532</td>
</tr>
<tr>
<td>2002-03</td>
<td>1416.192</td>
</tr>
<tr>
<td>2003-04</td>
<td>93.534</td>
</tr>
<tr>
<td>2004-05</td>
<td>63.218</td>
</tr>
</tbody>
</table>
Table – 5.2 Trend in Partial Labour productivity of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

In Saurashtra University partial labour productivity ratio trends except year 1994-95, 1998-99 & 2004-05. The absolute figure of partial labour productivity ratio trends in average study period from year 1993-94 to year 2004-05. It was trend ratio in trend 100 in year 1993-94 and reached at Rs. 146.192 in year 2002-03.

In Gujarat University trends of average study period is very fluctuated trends is 100 in year 1993-94 to increasing Rs. 1059.112 lacs in year 2001-2002. Thenafter very increasing in partial labour productivity ratio trends in a study period.

It observe that partial labour productivity ratio of Gujarat University is very fluctuated.

Partial Labour Productivity (ANOVA Test)

Null Hypothesis:
There is no any significant difference in partial labour productivity of universities under study.

Alternative hypothesis:
There is significant difference in partial labour productivity of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>339.018919</td>
<td>1</td>
<td>339.0189</td>
<td>3.676232</td>
<td>4.300944</td>
</tr>
<tr>
<td>Within Groups</td>
<td>2028.820743</td>
<td>22</td>
<td>92.21912</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2367.839635</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
It is clear from table No. 5.3, that the calculated value of F was 3.676, which is lower than table value of F (4.30). So, null hypothesis is accepted and alternative hypothesis is rejected. So, it can be concluded there is no any significance difference in partial labour productivity of universities under study.

2) **Analysis of Examination Efficiency Ratio:**

Data of Examination fees are another major source of income of sample University. in present study all types of examination fees are consider under this head and then percentage share of examination fees is calculated as percentage of total income.

**Table 5.4 : Examination Efficiency Ratio of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005**

Examination Efficiency Ratio = Output/Examination Cost

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Rs. In Lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>4.850</td>
</tr>
<tr>
<td>1994-95</td>
<td>3.957</td>
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<tr>
<td>1995-96</td>
<td>3.851</td>
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<tr>
<td>1996-97</td>
<td>4.169</td>
</tr>
<tr>
<td>1997-98</td>
<td>5.656</td>
</tr>
<tr>
<td>1998-99</td>
<td>5.794</td>
</tr>
<tr>
<td>1999-00</td>
<td>6.187</td>
</tr>
<tr>
<td>2000-01</td>
<td>7.209</td>
</tr>
<tr>
<td>2001-02</td>
<td>5.988</td>
</tr>
<tr>
<td>2002-03</td>
<td>5.782</td>
</tr>
<tr>
<td>2003-04</td>
<td>1.558</td>
</tr>
<tr>
<td>2004-05</td>
<td>0.779</td>
</tr>
<tr>
<td>Average</td>
<td>4.648289917</td>
</tr>
<tr>
<td>SD</td>
<td>1.913</td>
</tr>
<tr>
<td>CV</td>
<td>41.14686897</td>
</tr>
</tbody>
</table>
Table – 5.4 Examination Efficiency ratio Partial Labour productivity of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

The examination Efficiency Ratio of Saurashtra University was ranged between the Rs. 6.187 lacs in year 1999-2000 to Rs. 4.850 lacs in year 1993-94 with an average of Rs. 4.6483 lacs. The ratio was Rs., 4.850 lacs in year 1993-94 which was increased to Rs. 5.656 lacs in year 1997-98 Rs. 5.794 lacs in year 1998-99, Rs. 87.209 lacs in year 2000-01. The exam. efficiency ration was again raising to research study period from year 1993-94 to 2004-05 and slightly declined. In last 3 years of study period the exam. efficiency ratio showed declined trends. The standard deviation is Rs. 1.913 lacs was very fluctuated from the average.

The exam. efficiency ratio of Gujarat University was the highest of Rs. 40.862 lacs in year 2001-2002 and lowest ratio of Rs. 0.590 lacs in year 2003-04. The exam. efficiency ration trends had been very fluctuated with an average
of 7.2112 lacs. The exam. efficiency ratio was Rs. 5.432 lacs in year 1993-94 then it declined to Rs. 4.520 lacs in year 1994-95 continuously upto Rs. 631 lacs in year 2000-01. Thenafter exam. efficiency ratio went down Rs. 40.862 lacs in year 2001-02., The trend in examination ration for last in study period was very fluctuated with the S.D. of Rs. 10.729 lacs.

It can be conclude that there were no any uniform in the examination efficiency ratio of Saurashtra University and Gujarat University.

Table 5.5 : Trend analysis of Examination Efficiency Ratio of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1994-95</td>
<td>81.587</td>
<td>81.587</td>
</tr>
<tr>
<td>1995-96</td>
<td>79.402</td>
<td>82.971</td>
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<tr>
<td>1996-97</td>
<td>85.958</td>
<td>74.558</td>
</tr>
<tr>
<td>1997-98</td>
<td>121.477</td>
<td>90.003</td>
</tr>
<tr>
<td>1998-99</td>
<td>119.464</td>
<td>89.323</td>
</tr>
<tr>
<td>1999-00</td>
<td>127.567</td>
<td>103.663</td>
</tr>
<tr>
<td>2000-01</td>
<td>148.639</td>
<td>752.245</td>
</tr>
<tr>
<td>2001-02</td>
<td>123.464</td>
<td>72.57</td>
</tr>
<tr>
<td>2002-03</td>
<td>119.216</td>
<td>10.862</td>
</tr>
<tr>
<td>2003-04</td>
<td>32.124</td>
<td>20.545</td>
</tr>
<tr>
<td>2004-05</td>
<td>16.0618</td>
<td>20.545</td>
</tr>
</tbody>
</table>
Table 5.5 Trend Analysis examination efficiency ratio of Saurashtra University and Gujarat University.

In Saurashtra University Exam. efficiency Ratio trends figure showed an increasing trend except, year 1995-96, 1998-99, 2001-02, 2003-04 and 2004-05. The absolute figure exam. ratio trend of Saurashtra University was showed an increasing trend in average study period from 1993-94 to 2004-05.

It was trend ratio in examination efficiency 10 in year 1993-94 and reached at Rs. 148.639 lacs in year 2000-2001.

In Gujarat University trends of average study period is very fluctuated. Trend study is 100 in year 1993-94 to increasing Rs. 752 lacs in year 2001-02. Thenafter very slight declined in examination efficiency ratio trend in a study of period.

It conclude that trends ratio of Gujarat University is very high fluctuated.
Examination Efficiency Ratio (ANOVA Test)

Null Hypothesis:

There is no any significant difference in examination efficiency ratio of universities under study.

Alternative hypothesis:

There is significant difference in examination efficiency ratio of universities under study.

Level of Significance: 5 percent

Critical value: 4.300

Degree of freedom: 23

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>39.4351672</td>
<td>1</td>
<td>39.43517</td>
<td>0.66402</td>
<td>4.300944</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1306.54799</td>
<td>22</td>
<td>59.38854</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1345.983157</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since $F_{cal} < F_{critical}$ (at 5% significance level), the null hypothesis is accepted and hence it is concluded that the examination efficiency ratio of SU and GU does not differ significantly.

3) Analysis of Research and development Efficiency Ratio:

Data of collected to sample of University on the basis of total output and development cost.
### Table 5.7: Research & Development Efficiency Ratio of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

Research and Development Efficiency Ratio = Output/R & D Cost

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>37.423</td>
<td>3.322</td>
</tr>
<tr>
<td>1994-95</td>
<td>14.418</td>
<td>3.404</td>
</tr>
<tr>
<td>1995-96</td>
<td>14.426</td>
<td>3.437</td>
</tr>
<tr>
<td>1996-97</td>
<td>16.424</td>
<td>0.003</td>
</tr>
<tr>
<td>1997-98</td>
<td>16.911</td>
<td>3.916</td>
</tr>
<tr>
<td>1998-99</td>
<td>21.325</td>
<td>3.589</td>
</tr>
<tr>
<td>1999-00</td>
<td>20.082</td>
<td>2.844</td>
</tr>
<tr>
<td>2000-01</td>
<td>28.029</td>
<td>2.822</td>
</tr>
<tr>
<td>2001-02</td>
<td>22.880</td>
<td>25.804</td>
</tr>
<tr>
<td>2002-03</td>
<td>23.570</td>
<td>4.238</td>
</tr>
<tr>
<td>2003-04</td>
<td>3.378</td>
<td>0.181</td>
</tr>
<tr>
<td>2004-05</td>
<td>0.724</td>
<td>0.268</td>
</tr>
<tr>
<td>Average</td>
<td>18.2991436</td>
<td>4.485707367</td>
</tr>
<tr>
<td>SD</td>
<td>9.948</td>
<td>6.883</td>
</tr>
<tr>
<td>CV</td>
<td>54.36130397</td>
<td>153.4481311</td>
</tr>
</tbody>
</table>

### Chart 5.5: R & D Efficiency

![Chart 5.5: R & D Efficiency](image)
Table 5.7: R & D efficiency ratio

The R & D efficiency ratio of Saurashtra University was ranged between the Rs. 37.423 lacs in year 1993 with an average of Rs. 18.29919 lacs. The R & D efficiency ratio was Rs. 37.423 lacs in year 1993-94 which was declined to Rs. 14.418 in year 1994-95, Rs. 3.378 lacs in year 2003-04 Rs. 0.724 lacs in year 2004-2005. The R & D efficiency ratio was again declined to research study period in year 1993-94 to 2004-05. Thus it shows increased efficiency ratio trends from Rs. 16.424 lacs in year 1996-97 Rs. 16.911 lacs in year 97-98 Rs. 21.325 lacs in year 1998-99 but its slightly declined and went down Rs. 20.082 lacs in year 1999-2000. In last 2 years of study period the R & D efficiency ratio showed declined trends. The S.D. is Rs. 9.948 lacs was very fluctuating from the average.

The R & D efficiency ratio of Gujarat University was the highest of 25.804 lacs in year 2001-02 and the lowest of Rs. 0.181 lacs in years 2003-04. The R & D efficiency ratio trends had been very fluctuated with an average of Rs. 4.4857 lacs. The efficiency ratio was Rs. 3.322 lacs in 1993-94 than it increasing to 3.404 lacs in year 1994-95 Rs. 3.437 in year 1995-96 again it declined Rs. 0.0093 in year. 1996-97. Then after the R & D efficiency ratio went down to Rs 3.916 in year. 1997-98. The efficiency ratio was increased Rs. 3.916 lacs in year 1997-98 Rs. 3.589 in year 1998-99 it was highly declined to Rs. 2.822 in year 2000-2001. The trend in R & D efficiency ratio for the last in research period was declined with the standard deviation of 6.883.

It can be observe that there were no any uniform in the R & D efficiency ratio of Saurashtra University and Gujarat University.
Table 5.8 : Trend analysis Research & Development Efficiency Ratio of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>100</td>
<td>100</td>
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<td>1994-95</td>
<td>38.5271</td>
<td>30.102</td>
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<tr>
<td>1995-96</td>
<td>38.5491</td>
<td>103.462</td>
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<td>1996-97</td>
<td>43.887</td>
<td>0.0903</td>
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<td>1997-98</td>
<td>45.189</td>
<td>117.88</td>
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<td>1998-99</td>
<td>56.984</td>
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<td>73.293</td>
</tr>
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<td>2000-01</td>
<td>53.662</td>
<td>84.949</td>
</tr>
<tr>
<td>2001-02</td>
<td>75.04</td>
<td>776.76</td>
</tr>
<tr>
<td>2002-03</td>
<td>61.139</td>
<td>127.574</td>
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<td>2003-04</td>
<td>62.983</td>
<td>5.449</td>
</tr>
<tr>
<td>2004-05</td>
<td>9.027</td>
<td>8.067</td>
</tr>
</tbody>
</table>

Chart 5.6: R & D Efficiency Trend
Table – 5.8 Trend analysis of R & D efficiency ratio.

In Saurashtra University R & D efficiency ratio trends figure showed on increasing trends except year 1999-2000, 2003-04 and 2004-05 the absolute figures R & D efficiency ratio trend of Saurashtra University was showed in increasing trend in average study period from year 1993-94 to 2003-04. It was trend ratio in R & D effi. Ratio trend 100 in year 1993-94 and reached at Rs. 75.040 lacs in year 2000-2001.

In Gujarat University trends of average study period is very fluctuated. Trend is 100 in year 1993-94 to increasing Rs. 776.760 lacs year 2001-02. Thenafter very light declined in R & D efficiency ration trend in a study of period.

It observe that trends ratio of Gujarat University is very high fluctuated.

Research and Development Efficiency Ratio (ANOVA Test)

Null Hypothesis:
There is no any significant difference in research and development efficiency ratio of universities under study.

Alternative hypothesis:
There is significant difference in research and development efficiency ratio of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23
ANOVA Table 5.9

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
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</thead>
<tbody>
<tr>
<td>Between Groups</td>
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<td>1144.875</td>
<td>15.64728</td>
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</tr>
<tr>
<td>Within Groups</td>
<td>1609.687889</td>
<td>22</td>
<td>73.16763</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2754.562426</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since F cal > F critical (at 5% significance level), the null hypothesis is rejected and alternative hypothesis is accepted and hence it is concluded that the research and development efficiency ratio of SU and GU does differ significantly.

4) Analysis of Cost effectiveness per student Ratio:

Data on sample study Total Expenditure and taking percentage data to number of student were consider under this head for the purpose of analysis

Table 5.10 : Cost effectiveness per student of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

Cost Effectiveness of Per Students = Total Expenses/No. of Students

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Rs. In Lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>755.917</td>
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<tr>
<td>1994-95</td>
<td>914.728</td>
</tr>
<tr>
<td>1995-96</td>
<td>892.611</td>
</tr>
<tr>
<td>1996-97</td>
<td>1099.335</td>
</tr>
<tr>
<td>1997-98</td>
<td>1107.888</td>
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<tr>
<td>1998-99</td>
<td>1325.274</td>
</tr>
<tr>
<td>1999-00</td>
<td>1447.739</td>
</tr>
<tr>
<td>2000-01</td>
<td>1093.822</td>
</tr>
<tr>
<td>2001-02</td>
<td>1093.916</td>
</tr>
<tr>
<td>2002-03</td>
<td>1916.743</td>
</tr>
<tr>
<td>2003-04</td>
<td>597.436</td>
</tr>
<tr>
<td>2004-05</td>
<td>615.685</td>
</tr>
<tr>
<td>Average</td>
<td>1071.757727</td>
</tr>
<tr>
<td>SD</td>
<td>370.769</td>
</tr>
<tr>
<td>CV</td>
<td>34.59448629</td>
</tr>
</tbody>
</table>
Table 5.10 Cost efficiency of per students

The cost effectiveness of per student ratio of Saurashtra University was ranged between the Rs. 1916.743 lacs in year 2002-03 with an average of Rs. 1071.7577. The ratio was Rs. 755.917 in year 1993-94 which was increased to Rs. 914.728 in year 94-95, 1099.335 in year 96-97, 1916.743 in year 2002-03. The ratio was again raising Rs. 1916.743 in year 2002-2003. Thus it shows increased ratio trends from Rs. 755.917 lacs in year 1993-94 to Rs. 1916.843 lacs in year 2002-03, but its slightly declined and went down Rs. 597.436 lacs in year 2003-04 and Rs. 615.685 in year 2004-05. The standard deviation is 370.769 was very fluctuated from the average.

The ratio of Gujarat University was the lightest of 1137.228 lacs in year in year 2001-2002 and the lowest of Rs. 667.679in year 1993-94. The ratio trends had been very fluctuated with an average of 793.367. The ratio was Rs 667.679 in 93-94 then it declined 485.192 in year 1994-95 but again it rose Rs. 1098.995 lacs in year 1997-98 Rs. 1106.041 lacs in year 1999-2000 and reached 1137.228 in year 2001-2002. Thenafter the ratio, went down to 864.577 in year 2004-05.
The trend in ration for the last  in research period was increased with the S.D. of 310106.

It can be observe that there were no any uniform in the last effectiveness per student ratio of Saurashtra University and Gujarat University.

**Table 5.11 : Trend analysis of Cost effectiveness per student of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1994-95</td>
<td>1.21</td>
<td>72.668</td>
</tr>
<tr>
<td>1995-96</td>
<td>118.083</td>
<td>94.413</td>
</tr>
<tr>
<td>1996-97</td>
<td>145.434</td>
<td>120.73</td>
</tr>
<tr>
<td>1997-98</td>
<td>176.562</td>
<td>164.6</td>
</tr>
<tr>
<td>1998-99</td>
<td>175.3021</td>
<td>158.633</td>
</tr>
<tr>
<td>1999-00</td>
<td>121.5201</td>
<td>165.654</td>
</tr>
<tr>
<td>2000-01</td>
<td>144.3081</td>
<td>9.965</td>
</tr>
<tr>
<td>2001-02</td>
<td>144.7139</td>
<td>170.325</td>
</tr>
<tr>
<td>2002-03</td>
<td>253.5659</td>
<td>125.467</td>
</tr>
<tr>
<td>2003-04</td>
<td>79.035</td>
<td>110.948</td>
</tr>
<tr>
<td>2004-05</td>
<td>81.449</td>
<td>129.49</td>
</tr>
</tbody>
</table>
Table – 5.11 Trend Analysis of cost effectiveness per student ratio

In Saurashtra University cost effectiveness per student ratio trends figure should an increasing trends except year 1995-96, 2000-01, 2003-04 and 2004-05. The absolute figure cost eff. of per student ration trend of Saurashtra University was showed an increasing trend in average study period from year 1994-95, 1995-96, 1996-97, 1998-99. It was trend ratio in cost effectiveness per student Ratio trend 100 in year 1993-94 and reached at Rs. 81.449 lacs in year 2004-05.

In Gujarat University trends of average study period is very fluctuated. Trend is 100 in year 1993-94 to University Rs. 170.325 in year 2001-2002. Thenafter very slight declined in cost effectiveness per student ratio trend in a study of period.

It observe that trends ratio of Gujarat University is very high fluctuated.
Cost Effectiveness per Students (ANOVA Test)

Null Hypothesis:
There is no any significant difference in cost effectiveness per students of universities under study.

Alternative hypothesis:
There is significant difference in cost effectiveness per students of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>465008.1705</td>
<td>1</td>
<td>465008.2</td>
<td>3.980629</td>
<td>4.300944</td>
</tr>
<tr>
<td>Within Groups</td>
<td>2569990.565</td>
<td>22</td>
<td>116817.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3034998.736</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is evident from table 5.12 that the difference between cost effectiveness per students in between groups and within groups was not significant because the calculated value of ‘F’ (3.98) was lower than the critical value of ‘F’ (4.30) so, null hypothesis is accepted and alternative hypothesis is rejected. So, it indicates cost effectiveness per students of university under study does not differ significantly.
5) **Analysis of Revenue Efficiency of University per students Ratio:**

Data of percentage to Total income and percentage to number of student were under this head for the purpose of analysis.

**Table 5.13 : Revenue Efficiency of per student of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Rs. In Lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>37.423</td>
</tr>
<tr>
<td>1994-95</td>
<td>14.418</td>
</tr>
<tr>
<td>1995-96</td>
<td>14.426</td>
</tr>
<tr>
<td>1996-97</td>
<td>16.424</td>
</tr>
<tr>
<td>1997-98</td>
<td>16.911</td>
</tr>
<tr>
<td>1998-99</td>
<td>21.325</td>
</tr>
<tr>
<td>1999-00</td>
<td>20.082</td>
</tr>
<tr>
<td>2000-01</td>
<td>28.029</td>
</tr>
<tr>
<td>2001-02</td>
<td>22.880</td>
</tr>
<tr>
<td>2002-03</td>
<td>23.570</td>
</tr>
<tr>
<td>2003-04</td>
<td>3.378</td>
</tr>
<tr>
<td>2004-05</td>
<td>0.724</td>
</tr>
<tr>
<td>Average</td>
<td>18.29919436</td>
</tr>
<tr>
<td>SD</td>
<td>9.948</td>
</tr>
<tr>
<td>CV</td>
<td>54.36130397</td>
</tr>
</tbody>
</table>
Table – 5.13 Revenue Efficiency per student ratio analysis of sample University

The ratio of Saurashtra University was ranged between the Rs. 1659.102 lacs in year 1999-2000 to Rs. 541.699 in year 2004-05 with an average of 1070.5015 lacs. The ratio was 779.458 in year 1993-94 which was increased to 794.099 in 1994-95 and 1400.570 in year 2001-02. The ratio was declined 904.924 in year 2002-2003 to 541.699 in year 2004-05 in last 3 years of study period the ratio per student showed declined trends. The S.D. was very fluctuated from the average.

The ration of Gujarat University was the highest of 1730.743 in year 2000-2001 and lowest of Rs. 532.132 in year 1993-94. The ratio trends had been very fluctuated with an average of 1923.477. The ratio was Rs. 532.138 in year 93-94 then it increasing to 1730.743 in year 2000-2001 but again it declined 1356.714 in year 2001-02 and reached Rs. 1240.664 in year 2002-2003. Thenafter the
ratio went down to 1476.657 in year 2004-05. The trend in ratio for the last in research period was increased with the standard deviation 2996.457.

It can be conclude that there were no any uniform in the Revenue efficiency ration per student of Saurashtra University & Gujarat University.

Table 5.14 : Trend analysis of Revenue Efficiency of per student of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1994-95</td>
<td>101.878</td>
<td>103.153</td>
</tr>
<tr>
<td>1995-96</td>
<td>106.712</td>
<td>129.018</td>
</tr>
<tr>
<td>1996-97</td>
<td>134.919</td>
<td>155.015</td>
</tr>
<tr>
<td>1997-98</td>
<td>146.411</td>
<td>139.922</td>
</tr>
<tr>
<td>1998-99</td>
<td>170.898</td>
<td>259.483</td>
</tr>
<tr>
<td>1999-00</td>
<td>212.863</td>
<td>245.752</td>
</tr>
<tr>
<td>2000-01</td>
<td>209.348</td>
<td>325.247</td>
</tr>
<tr>
<td>2001-02</td>
<td>179.685</td>
<td>254.955</td>
</tr>
<tr>
<td>2002-03</td>
<td>116096</td>
<td>233.147</td>
</tr>
<tr>
<td>2003-04</td>
<td>99.822</td>
<td>235.152</td>
</tr>
<tr>
<td>2004-05</td>
<td>69.496</td>
<td>277.495</td>
</tr>
</tbody>
</table>

Chart 5.10 :Effiency Uni Per Student Trend
Table – 5.14 Trend analysis of revenue efficiency of university per student ratio:


In Gujarat University trends of average study period is very fluctuated. Trend is 100 in year 1993-94 to increasing 325.247 in year 2004-2005. Thereafter very increasing in rev. eff. of University per student ratio trend in a study of period.

It observe that trends ratio of Gujarat University is very high fluctuated.

Revenue efficiency per Students (ANOVA Test)

Null Hypothesis:
There is no any significant difference in revenue efficiency per students of universities under study.

Alternative hypothesis:
There is significant difference in revenue efficiency per students of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23
Table 5.15 indicates there was no any significant difference in revenue efficiency per students of universities under study because the calculated value of ‘F’ was lower than table value so, null hypothesis is accepted and alternative hypothesis rejected. It can be concluded that both universities revenue efficiency per students has a similar trend.

6) Analysis of Total Productivity ratio:

Data of taking to Percentage of Total expenditure and percentage to total Income were considered under this head for the purpose of analysis.
Table 5.16 : Total productivity Ratio of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

Revenue Efficiency of University Per Students = Total Income/ No.of Students

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>779.458</td>
<td>532.138</td>
</tr>
<tr>
<td>1994-95</td>
<td>794.099</td>
<td>548.909</td>
</tr>
<tr>
<td>1995-96</td>
<td>831.779</td>
<td>686.555</td>
</tr>
<tr>
<td>1996-97</td>
<td>1051.639</td>
<td>824.892</td>
</tr>
<tr>
<td>1997-98</td>
<td>1141.212</td>
<td>744.578</td>
</tr>
<tr>
<td>1998-99</td>
<td>1331.687</td>
<td>1380.806</td>
</tr>
<tr>
<td>1999-00</td>
<td>1659.102</td>
<td>1307.740</td>
</tr>
<tr>
<td>2000-01</td>
<td>1631.782</td>
<td>1730.743</td>
</tr>
<tr>
<td>2001-02</td>
<td>1400.570</td>
<td>11356.714</td>
</tr>
<tr>
<td>2002-03</td>
<td>904.924</td>
<td>1240.664</td>
</tr>
<tr>
<td>2003-04</td>
<td>778.068</td>
<td>1251.333</td>
</tr>
<tr>
<td>2004-05</td>
<td>541.699</td>
<td>1476.657</td>
</tr>
<tr>
<td>Average</td>
<td>1070.501504</td>
<td>1923.477171</td>
</tr>
<tr>
<td>SD</td>
<td>363.651</td>
<td>2996.457</td>
</tr>
<tr>
<td>CV</td>
<td>33.97016917</td>
<td>155.7833528</td>
</tr>
</tbody>
</table>

Chart 5.11: Tot. Income / Expenditure
Table – 5.16 Total Productivity Ratio of Saurashtra university and Gujarat University:

The total productivity of Saurashtra University was range between the Rs. 1.492 lacs in year 2000-01 to Rs. 0.880 lacs in year 2004-05 with an average of 1.0329. The total productivity ratio was Rs. 1.031 lacs in year. 1993-94 which was declined to 0.868 in year 1994-95, 0.472 in year 2002-03 and 0.880 in year 2004-05. The productivity ration was increasing 1.146 in year 1999-2000, 1.492 in year 2000-01 and 1.280 in year 2001-2002/ In last 3 years of study period the productivity ratio per student showed fluctuating trends.

The standard deviation (S.D.) is 0.259 was very fluctuated the average.

The ratio of Gujarat University was the highest of 26.013 in year 2000-01 and lowest of Rs. 0.678 in year 1997-98. The productivity ration trends had been very fluctuated with an average of 4.003894. The productivity ration was Rs. 0.797 in year 1993-94 then it increasing to 9.986 in year 2001-2002. but against it declined 0.608 in year 1997-98 and reached Rs. 1.708 in year 2004-05. Then after the ratio went down to 1.7098 in year 2004-05. The trend in ratio for the last in research period was increased with the S.D. 7.383.

It can be observe that there was no any uniform in the total productivity ration of Saurashtra University & Gujarat University.
Table 5.17: Trend analysis of Total productivity Ratio of Saurashtra University and Gujarat University under study from 1993-94 to 2004-2005

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Rs. In Lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>100</td>
</tr>
<tr>
<td>1994-95</td>
<td>141.907</td>
</tr>
<tr>
<td>1995-96</td>
<td>136.637</td>
</tr>
<tr>
<td>1996-97</td>
<td>128.356</td>
</tr>
<tr>
<td>1997-98</td>
<td>85.069</td>
</tr>
<tr>
<td>1998-99</td>
<td>125.471</td>
</tr>
<tr>
<td>1999-00</td>
<td>148.306</td>
</tr>
<tr>
<td>2000-01</td>
<td>3263.864</td>
</tr>
<tr>
<td>2001-02</td>
<td>1252.948</td>
</tr>
<tr>
<td>2002-03</td>
<td>181.43</td>
</tr>
<tr>
<td>2003-04</td>
<td>214.304</td>
</tr>
<tr>
<td>2004-05</td>
<td>214.304</td>
</tr>
</tbody>
</table>
Table – 5.17 Trend analysis of Productivity ratio of Saurashtra university and Gujarat University:

In Saurashtra University total productivity ration trends expert year 2002-03 and 2004-05. The absolute figure productivity ratio trends in average study period from year 1993-94 to year 2004-05. It was trend ratio in trend 100 in year 1993-94 and reached at Rs. 144.714 lacs in year 2000-2001.

In Gujarat University trends of average study period is very fluctuated. Trends is 100 in year 1993-94 to increasing 3263.864 in year 2000-2001 Then after very increasing in total productivity ration trend in a study period.

It observe that trends ration of Gujarat University is very high fluctuated.

Total Productivity Ratio (ANOVA Test)

Null Hypothesis:
There is no any significant difference in total productivity ratio of universities under study.

Alternative hypothesis:
There is significant difference in total productivity ratio of universities under study.

Level of Significance: 5 percent
Critical value: 4.300
Degree of freedom: 23

ANOVA Table 5.18

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>52.96003217</td>
<td>1</td>
<td>52.96003</td>
<td>1.940861</td>
<td>4.300944</td>
</tr>
<tr>
<td>Within Groups</td>
<td>600.31132</td>
<td>22</td>
<td>27.28688</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>653.2713521</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since F cal < F critical (at 5% significance level), the null hypothesis is accepted and hence it is concluded that the total productivity ratio of SU and GU does not differ significantly.
5.7 Conclusion:

Partial labour productivity of Gujarat University is better compared to Saurashtra University. Examination Efficiency Ratio Of Gujarat University is 10.729 While the Saurashtra university is just 1.913 it indicates that the Examination Efficiency ratio of Saurashtra University is very low compared to Gujarat university. Research and development Efficiency Ratio of Saurashtra University is slightly higher compared to the Gujarat university. Cost effectiveness per student of Saurashtra University. Revenue efficiency ratio Of Saurashtra university is 9.948 While Gujarat University is 6.883 it shows that Revenue i.e., generated per student by Saurashtra university is more compared to Gujarat university.

Financing of Universities Has Multi-Dimensional problems for while the sources are extremely limited the needs are disproportionately too many, creating hurdles to fulfill the objectives of an institution of Higher Education Learning, particularly in the context of demands of the developing society and the role that such institutions have to play meet the various needs of the Country.

Financial Administration is another complex problem amidst the state control, statutory requirements and administrative the needs all of which are ‘constraints' to the administration. A number of problems stem from such complex situation.

Above analysis of the average of the Sample University is very fluctuating. So, normally reduce the level of University Expenditure and better management.
Reference:

2. S.A. Chunawala & : Production & Operation Management, Himalaya Patel Publishing House, Bombay
4. V.K. Saxena : Cost and Management Accounting, S.Chand & Sons, New Delhi
15. Milton Friedman in Jandhyala B.G. Tilak in his paper, Financing Higher Education in India, NIEPA, New Delhi, p 45.
Chapter – 6

SUMMARY, FINDINGS AND SUGGESTIONS

Summary and Findings:

1. The miscellaneous expenses are included a very big amount under this head instead of this, its details breakup is to be indicated. As per discussion, the major share of the head is in the form of bank interest and other charges due to huge amount of overdraft and it is not immediately controllable.

2. The university should therefore have the capacity to raise funds and also have control of factors like recruitment and promotions, that affect the magnitude of expenditure. It short, the existing relationship between the government and universities should be reviewed with a view to adopting a transparent and accountable fiscal policy for university development.

3. A policy evident from the fact that a large number of foreign universities are marketing their programmes in India at exorbitant costs but our reputed institutions like IITs and IIMs are hardly allowed to sell their programmes on similarly terms, not even to foreign students. Their fiscal capacity is thus constrained.

4. There is much to be desired in so far as effective utilization of funds and subsidiasation policy in relation to target groups - institutions and beneficiary students are concerned. Even for comparable programmes and services, financial allocations to institutions widely vary due mainly to lack of objective criteria to distribute funds among various types of institutions. As a result the relationship between units costs of [education and student’s performance or learning attainment is not clear.

5. The university has received less endowment funds but whatever amount is available to the university should be shown separately and its income from thereon should be shown as a source of recurring income.
6. Budgets of the self financing courses should also be included in the master budget of the University.

7. There is a very good scope of increase income by way of further free raisins because, presently the University is getting around 22% of its operating expenses by way of fees which is much less than cost incurred by the University and Govt.

8. All the expenses should be broadly classified in two broader categories viz., (i) for which grants are available and (ii) for which grants are not presently available so that more systematically, efforts may be made to demand grants on genuine grounds and to exercise judiciously the discretion to reduce certain type of expenses.

9. There are large numbers of equipments lying unused. The university may think of seels them to interested parties on reasonable basis and it can be succeed in stopping fixed charges and remaining still maintaining then in working conditions.

10. **State Government Grants**
   a. Specific norms with regard to the approved items and rate of growth of expenditure should be specifically laid down.
   b. At present the maintenance grant is given on an adhoc basis in the beginning of the financial year by taking into accounts the grants sanctioned during the previous financial year. This should be changed and the adhoc grants should be sanctioned on the basis of the previous year’s grant plus twenty percent.
c. University grants are paid in four equal installments, in April, July, October and December. This should be changed and the grants should be paid in three installments viz. 50% as first installment and 25% as remaining two installments.

d. The University does not have any surplus fund for making salary payments in April every year. The University should therefore be given a revolving fund of Rs. Ten Lacs.

e. University grants for the maintenance of buildings and roads should be given according to the same which are observed by the State Government for its own properties.

f. University grants commission pay 20% amount of the sanctioned grant as soon as the work order is given, similarly 20% grants should be given by the State Government. Whenever the progress reports are sent to the UGC the State Government should also consider giving the respective amount of grant as is required to be paid by UGC. In short the State Government shouldn’t wait till the UGC.

h. The Finance Officer or the Chief Accounts Officer should be of the cadre of the Registrar and should be directly responsible to the Vice Chancellor. They should be ex-officio members of the Syndicate or Chancellor. They should be ex-officio members of the Syndicate or the Executive Council. Without their signature no. Payment should be considered valid. The should be selected by the State Public Service Commission and should be transferable within the State and should be governed by the State Government males of conditions of service etc.
Finance means cash and its equivalents. University is a service sector, the major source of fund for universities are government grants and receipts from various incomes. That fund can be further classified as internal source of fund and external source of fund. In a present liberalization era there is a vital importance to manage the available fund in universities as well as to mange the expenditure side of the universities. The volume of expenditure was increasingly day by day.

To educate a citizen of countries is a fundamental responsibility of any country. Indian education systems are famous since long back. Our Gurukul and Vidyapith system are world famous. The Lord Krishna and Ram has taken his education from guru’s ashram. Since independence growth of higher education is very fast. The total number of universities at the end of May 2002 was 293 and that of the affiliated colleges over 13,000 with a total enrolment of 7.5 million students and over 3.5 lakh teachers. Even though, there is very rapid expansion but in real sense only about 6-7 of the eligible age – group (18-23) are getting the benefits of higher education. While this figure is more than 30% in most of the developed countries and more than 50% for countries belonging to the organization of Economic Co operational and Development (OECD). Among this figure of 6-7% more than 80% students is in general education while this figure remains only around 30% in developed countries. Majority of the student’s population are in professional/vocational streams.

About 18% of the India’s total students population getting the benefit of higher education thoughts the distance mode. There are already 09 states open universities with Indira Gandhi National Open University (IGNOU) at the national level at New Delhi, established in 1985. so now in the year 2005 the growth rate of higher is very high. Due to implementation of GATS various foreign universities has made a collaboration of with Indian universities and so many Indian students are interested to go in various country of world for higher study.
Earlier we have assumed that the higher education is a quasi public good and in the case of such goods private proportion of funding should be higher because these goods are associated with higher private returns compared to pure public good. It has been observed that in all the universities private proportion of funding was lower during the period of study and it varies from university to university.

This does not mean that the higher education is not a quasi-public good. Majority of the universities are running traditional courses to a larger extend which are not associated with higher private returns because of changing market conditions, if universities introduce the courses which have higher private returns, it will attract the private funding in higher education.

Through the internationalization of Higher Education, India may earn a very good amount foreign exchange. The quality of Higher Education may improve through the competition with foreign universities because to compete with them, we have to raise out standards to the international level otherwise we will remain unable to attract the foreign and NRI students for internationalization out higher education we can easily spread out culture and values world wide. The privatization and globalization of Indian higher education seems inevitable in the present century increasing use of information & communication technologies in higher education may easily globalize it. So we should keep ourselves ready for the establishment of the private universities and the internationalization of Higher education.

In Gujarat during the last decade on account of increasing population and increasing scope of education the demand for higher education has also increased. On the other side the state Government is not in a position to bear the burden of cost of his increased demand for higher education. As a result different type of problems with regard to finance and quality are also found in the higher education sector. Today government is prepared to bear the burden of increasing
expenditure by giving priority to primary education and for the spread of it. But there is no such preparedness for higher education as a result the government goes on maintains the expenditure for higher education among many difficulties.

The Gujarat government has erected a big structure of 14th universities and a large number of 468 affiliated colleges in the state. In the state having the only Ayurveda University of the country. Dr. Baba sahib Abedkar Open university to cope up the increasing demand of education. This university offers the different courses in local language Gujarati medium. Indira Gandhi Open University has its regional center in Gujarat to take care of its students desirous to study in English / Hindi medium.

During the last decade the major university was facing the problem of deficit in his budget. But due to liberalization in higher education policy of government so many financial institute came ahead for various courses in the field of Engineering, Medical and Management. Due to this in the last five years major universities came out from deficit position and became health in their financial position. Current study highlights these issues.

Universities are multipurpose organization~. There for not only is it difficult to separate the contributions made to each of the goals but it is also equally difficult to measure the outputs of the universities in meaningful terms. Universities are normally given an expenditure oriented budget within which they must function, and develop programmes which will make this money go as far as possible, While tracing the evolution of the financial management system of universities in India, a study of the efforts taken to improve the FM in the universities shows that it is a continu9us and on going process. The major thrust in the near future should be on computerizing accounting system and organizing orientation training programmes to the staff and financial managers of universities.
The volume of revenue of various universities is huge. So, there is a need to manage this fund properly. This aspect covers under revenue management of universities.

Major source of income for the universities was grant. The proportion of grant was higher in the case of Gujarat University and Saurashtra University as compared to other universities of Gujarat. It was lowest for the Gujarat University.

Analysis of ANOVA test indicates there was no any significant difference in grant income of universities in between years and in between universities.

Other major sources of income were examination fees. It has been observed that contribution of examination fees income has increased over a period of time. In some of the universities like Saurashtra University and Gujarat University contribution of examination fees was lower than study average. While the examination fees of Saurashtra University was highest among all universities under study.

The trend analysis of examination fees income recorded an increasing trend in major universities under study.

To test the significance difference in examination fees of university ANOVA test was used for that. It results indicates a uniform trend in examination fees of all universities under study.

Other sources of income of universities were post graduate department fees, but the average proportion of these fees in total income of universities was nearly 2.5 per cent. The highest proportion of this fee was in Gujarat University followed by Saurashtra University. Trend analysis indicates an increasing trend in all universities under study. The ANOVA test also indicates no any significant difference in this income of various universities under study.
The proportion of hostel fees income in total income of universities was very little. It was nearly about 0.04 per cent of total income. Trend of hostel income indicate a mix trend. The result of ANOVA test indicates uniformity in hostel income of all universities under study.

Fees from library was also another source of income for university but it’s share in total income was nearly 0.20 per cent. The trend analysis of this income indicates increasing trends. While ANOVA result indicates there is no any significance difference in library income of universities under study.

The proportion of other fees income and miscellaneous fees income of universities under study were 3.15 and 7.6 per cent respectively as percentage of total income. While trend analysis of both income showed an increasing trend. The ANOVA test results also indicate no any significant difference in both incomes of universities under study.

The analysis of total income of all universities indicates an increasing trend as well as absolute income of universities under study. It is observed from budget of universities that in some Universities income from self financing courses has increased in relative terms. This is really a good sign that universities have started generating income through self finance courses. It will reduce their dependence on grants from the government and will give them more autonomy. Looking to the present financial crunch, at all the levels, one can not expect much from the government for financing higher education, therefore this is the only and only way available to universities to become financially sound.
The major expenditure of universities was salary expenses which includes academic and administrative employee's salaries. The share of this expenditure in total expenditure of university was nearly 35 per cent. In Saurashtra University the share of this expenditure was highest (59.93 per cent) among all universities under study. The lowest proportion of salary expense was in Gujarat University. The trend analysis showed an increasing trend in salary expenditure of Sample University under study. The ANOVA result indicates there was no any significant difference in of universities under study.

The share of office administrative expenses in total expense of university was 8 per cent. The highest share of this expenditure was in Saurashtra University while lowest proportion was in Gujarat University. The trend analysis or office administrative expense showed an increasing trend in major years of study period.

The other major head of expenditure of universities was Post Graduate Education and Research Expense. The average expenditure of all university was nearly 22 per cent of total expenditure. The highest expenditure under this bead was in Saurashtra University and lowest expenses was in Gujarat University. The trend analysis of this expenditure indicates an increasing test. While the result of ANOVA indicates similarities in this expenditure in all universities under study.

For conducting examination, universities have to generate income through examination fees because no government assistance is available for the purpose. It has been observed that there is no proper cost estimation and allocation for the purpose of examination, which ultimately leads to gap between income and expenditure under examination head. Some of the faculties have contributed comparatively more towards examination fees income. These faculties were commerce, arts, science etc, Remuneration to paper setters and examiners, traveling allowance, conduct of examinations, printing and stationary were the major heads for the examination expenditure. Examination allowance
paid to non teaching employees consumes a sizable amount. Proper scheduling of examinations, checks on traveling allowance, saving of stationary and general reduction in the allowances, if possible, paid on non teaching staff may reduce the examination expenditure. Faculty wise costing of per student expenditure and accordingly charging examination fees may solve the problem.

The share of examination expenses in total expenditure of Saurashtra University and Gujarat University were nearly 14 per cent. The highest expenditure was in Saurashtra University followed by Gujarat University while the proportion of this expenditure in Gujarat University was lowest among sample universities under study the classification of university expense other than above expense includes Board of Sports and Welfare Expense, Library Expense, and Hostel Expense. The individual proportion of these expenses in total expenses of universities was small as compared to above expenses. Generally all expenses showed an increasing trends and result of ANOVA indicates similarities in all expenses.

Almost all the universities in the state have incurred surplus for the period of study, expect few years in some of the universities. The amount of surplus, as percentage of total income has varied from negligible to significant percentage. The same situation has been observed for the examination. For some of the universities, it is more than percent of total income. Of course, some universities like Saurashtra and Gujarat Universities financial position were sound. While the position of sample Universities was not sound indices of income and expenditure under various heads have shown mixed trend. Overall indices of income and expenditure have shown that the Gujarat University has registered higher increase in income, second was Saurashtra and third Gujarat, More or less same situation has been observed for expenditure.

Budget variance analysis has shown that there were higher deviations for various years for receipts and payments. The amount of deviation for receipts
and expenditure has varied from negligible to significant proportions of budgeted amount. It has been observed that deviations in receipts were higher compared to deviations in expenditure. It seems that universities were unable to collect their targeted receipts.

**Comparison of ratios has produced following observations:**

Ratio of grant partial labour productivity was higher for Saurashtra University and Gujarat University. It was highest for Gujarat University and lowest for Saurashtra University.

Ratio of university examination efficiency ratios to total output and cost was lower for Saurashtra University and Gujarat University compared to other Universities. Same situation has been observed for ratio of post graduate department fees income to total income.

Ratio of research and development efficiency ratio income to university and cost was highest for Saurashtra University compared to Gujarat University. It was lowest for Gujarat University.

Ratio of cost effectiveness per student to total expenditure was highest for total expenditure and number of student was lower than Saurashtra University compared to Gujarat University.

Revenue efficiency ratio to total income and number of student was highest for Saurashtra University compared to Gujarat University.

Total productivity ratio income and expenditure was highest for Saurashtra University compared to Gujarat University.
Salary expenses to total expenditure ratio of BU was highest and followed by so it has been observed from various budgets of universities under study that income per student per year was much lower compared to expenditure per student per year. Compared to growth in per student income, growth in per student expenditure was very higher. It was also observed that the gap between per student income and expenditure was wider in science faculty compared to arts and commerce faculties. The observation very clearly shows that there is much scope for increase in fees. The fee from the science and Management faculty students should be reasonably higher compared to arts and commerce faculty students.

Discussion of above mentioned paragraphs reveals that universities can improve their financial administration by attacking on two fronts, expenditure and income. Cutting expenditure below certain level is not possible, therefore universities have to raise income through internal sources because universities are already depending heavily on government assistance and looking to the current financial crunch there is little hope to tap this source. In the paragraphs to come suggestions are given to raise funds for financing higher education.

It has already been noted that the share of fees in financing higher education has declined sharply over the years, even though the levels of living have been increasing. There is almost a consensus among the authorities on the need to increase the fees. The ability of the students in higher education to pay is much higher than what they are actually paying. Looking to the student composition in higher education a uniform increase in fees is not advisable. The rich students in higher education could be asked to pay higher fees than economically weaker students. In other words, a discriminatory fee structure may be preferred. Such a discriminatory pricing mechanism minimizes the perverse effects of public subsidization of higher education reflected through uniform and low level of fees. Some of the universities have already started charging discriminatory fees for various courses like M.B.A., etc. in Gujarat. For the fees to
have any meaningful role in financing higher education, it should be related to
cost of higher education as costs differ by discipline of study.

The issues of raising fees and discriminatory pricing mechanism are
politically very sensitive. Therefore authorities should generate the public

2. **Voluntary contribution:**

   Historically education in India enjoyed the patronage of the members of
   the community who voluntarily contributed generously to education. But the
   relative role of these contributions has been declining over a period of time.
   Universities should try to raise funds from various sections of the society. It is
   general belief in the society that universities are not much productive and the
   education imparted has no relevance and therefore people do not come forward
   to offer the funds. Universities have to react on this front; they should improve
   their image in society. By establishing confidence among the people regarding
   their credibility, university can fetch handsome amount from the society. Some of
   the universities are doing extremely well on this front.

3. **Earmarked taxes: The Graduate Tax**

   Instead of financing higher education out of general tax collection,
   arguments in favor of graduate tax are increasing. It is to be levied from those
   who use the educated man power. The argument is that the users of human
   capital should share the burden of costs of production in the form of a Graduate
   Tax. The taxes could be levied based on the wage bill referring to the ski lied
   labour force employed or the number of graduates employed.

   Many people argue that such taxes will generate the problem of
   unemployment for educated man power because industry people may substitute
   capital for labour or cheaper graduates depending upon the elasticity of
   substitution.
4. Educational Cess:
   While the graduate tax has not been practiced in India, an educational
   cess is levied, as a fraction of some other tax, in several states of the country
   which is not specifically for higher education. Earmarked taxes, it is argued, may
   protect the education sector from shifting allocations, inefficiency and corruption,
   and assure minimum levels of finance. Thus, as funds for education from general
   tax revenue are subject to cuts, such taxes would form a sure source of funds for
   education. However, since earmarked taxes and cesses have a restricted tax
   base, such sources could be supplementary and not substitutes for financing
   higher education.

5. Funding on 100% Basis by UGC:
   The quantum of developmental funding through UGC needs to be
   substantially increased so as to enable the universities and colleges to improve
   the quality and relevance of higher education. Now that 'education' is subject in
   the concurrent list, 100 percent assistance should be given by UGC for salary
   revision as well as for specific items of development activities.

6. Inadmissible Items of Expenditure:
   The item of admissible expenditure namely leave encashment, medical!
   reimbursement, overtime and conveyance allowance, etc. should be at par with
   those of the state government employees. The list of other items should be
   revised from time to time. While doing so new items of expenditure should be
   included and redundant items dropped. Such a step on the part of the concerned
   authorities would reduce the list of items that are considered unadmissible by the
   state.

7. Financial Autonomy:
   Within defined parameters of over all funding the universities should have
   autonomy in the allocation of funds for various projects approved by the
   university finance Committee I syndicates. In emergent situations demanding
immediate arrangements, the universities should have the authority to make ad hoc appointments for short term duration so as to ensure that teaching in the departments does not suffer and that the administration of the university in not paralyzed due to non-availability of indispensable minimum staff. The payment of salaries and other related expenses on such purposes should not be treated as unapproved item. This would greatly reduce the magnitude of financial deficit.

8. Improvement in Financial Management:

There exists a great deal of scope for improving the financial management of universities. The method of budgeting needs to be modified by taking advantage of the new approaches of budgeting and the latest techniques of management of university finances. In fact, universities deal with huge funds in the range of Rupees 25 to 100 crores or more annually. They are therefore required to computerize and professionally manage the funds. In order to make optimum utilization of resources, the universities should also attempt reforms in their budgetary system.

9. Budgetary Reforms:

The existing approach of budgeting and financing non-plan expenditure hardly allows for reassessment of the needs, priorities and relevance of the programmes. The resources are largely allocated on incremental or deficit basis. This approach needs to be examined afresh. In this context, the concept of zero based budgeting (ZBB) would perhaps be more helpful since it would ensure continuous evaluation of the programmes and activities. Any saving effected through ZBB should be permitted to be used for higher priority programmes.

10. Raising Resources from Industry:

A concerted effort should be made to raise resources from nontraditional sources such as industries and other commercial concerns, which are making use of highly qualified and trained manpower produced by the institutions of higher education. The funds from industries and other business houses could be tapped by
(a) Introducing courses of studies and training programmes that are relevant to the needs of industries for increasing productivity; and

(b) Undertaking consultancy research projects, the findings of which could increase the profitability of the industrial sector. Moreover, the public and private sector enterprises should be encouraged to sponsor a specified number of students, especially in technical and professional fields, whom they can employ after graduation.

Every University should establish an Alumni Association and get as many of its former students engaged in mobilizing resources for the university. In this connection the example of many universities in the west should inspire our universities. A detailed project should be prepared in this connection and should be implemented with vigour and enthusiasm. Models or such a project would be available from some of the leading universities of the USA such as Harvard. Introduce a system or Annual Giving by Alumni.

11 Revenue from External Agencies:

The need for mobilization of resources from external sources should also be explored. It is often pointed out that the universities have experienced certain delay in obtaining the clearance of the projects funded by the external agencies. It is, therefore, suggested that it would be desirable to persuade the central government to liberalize the existing procedures, to facilitate the inflow of foreign funds.

At present the universities provide many subsidized services, such as low priced forms, handbooks of information and certificates at one end to low hostel charges at the other end. There is room for drastically increasing the prices of these services. Similarly, subsidy to the teachers and other members who came under the Health Centre should be reduced and the medical services improved. A through study should be made with a view to reducing the system of subsidies that prevail in the universities.

12. Control of Expenses:
The volume of various expenses related to administrative nature and traveling expense were increasing tremendously. So there is a need to identification of responsibilities of various officers of universities.

At present according to the norms laid down by the UGC ten percent amount can be spent towards furniture in the Guest house. This norm is too low. According to the present rates of furniture and the requirement of the Guest house, this norm should be raised 25% tardier we have assumed that the university education is a quasi public good and in the case of such goods private proportion of funding should be higher because these goods are associated with higher private returns compared of pure public good. It has been observed that in all the universities private proportion of funding was lower during the period of study and it varies from university to university. This does not mean that the higher education is not a quasi-public good. Majority of the universities are running traditional courses to a larger extend which are not associated with higher private returns because of chaining market conditions. If universities introduce the courses which have higher private returns, it will attract the private funding in higher education.

Main source of finance for the universities was University Grant Commission. The proportion of grant was higher in the case of Saurashtra University and Bhavnagar University. Other major sources of income were examination fees and education fees. It has been observed that contribution of examination fees income has increased over a period of time but education fees have not shown any significant change. In some universities contribution of education fees has decreased. In some universities income from self financing courses has increased in relative terms. This is really a good sign that universities has started generating income through self finance courses. It will reduce their dependence on grants from the government and will give them more autonomy. Looking to the present financial crunch, at all the levels, one cannot expect much from the government for financing higher education, therefore this is the only and only way available to universities to become financially sound.
Both university examination, have to generate income / revenue so examination fees because no government assistance is available for the purpose. It has been observed that there is no proper cost estimation and allocation for the purpose of examination, that ultimately leads to gap between income and expenditure under examination head. Some of the facilities have contributed budget variance analysis has shown that there were higher deviations for various years for receipts and payments. The amount of deviation for receipts and expenditure have varied from negligible to significant proportions of budgets amount. It has been observed that deviations in receipts were higher compared to deviations in expenditure. It seems that universities were unable to collect their targeted receipts.

Both university comparison ratio have produced following appraisal ratio of Examination fees income to university receipts was higher in Saurashtra University. Ratio of administrative office expenses to total expenditure was higher for Saurashtra University.

The same situation from negligible to significant percentage been observed for the examination. For some of the universities, it was more than 100 percent of total income. Of course, some universities like Saurashtra improved their situation and started generating surplus. Even consultancy work may i.e. promoted to generate income. The university departments can do a lot in this field.

Scholarships and awards from the various research institutions may be invited, procedures of certain activities may be submitted for avoiding unnecessary expenses. Traveling expenses, Adhoc work, fixed pay employees and daily wages worker, telephone and postage may be only this illustrative areas for this.

Fee has already been noted that the share of fees in financing university education has declined sharply over the years, even though the levels of living have been increasing. There is almost a consensus among the authorities on the need to increase the fees. The ability of the students in university education to
pay is much higher than what they are actually student composition looking to in higher education a uniform increase in' fees is not advisable. The rich students in higher education could be asked to pay higher fees than economically weaker students. In other words a discriminatory fee structure may be preferred. Such a discriminatory pricing mechanism minimizes the perverse effects of public subsidization of higher education reflected through uniform and low level of fees. Some of the universities have already started charging discriminatory fees for various courses like MBA, MCA etc. For the fees to have any meaningful role in financing higher education, it should be related to cost of higher education as costs differ by discipline of study.

The issues of raising fees and discriminatory pricing mechanism are politically very sensitive. Therefore authorities should generate the public.

Cost recovery measures, hake revision in stationed other charges, cannot succeed unless a' credit market for financing education is developed.

Institutions are required to offer relevant services for which industry may be willing to or But lack of basic facilities to undeliake quality research and training activities impede their effOlis. Therefore, the issues concerning the fiscal incentives for educational donations and required infrastructure need to be thoroughly examined with a view to facilitating resources mobilisation by Universities.
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