ORIGINAL RESEARCH PAPER

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CONCISE DISCUSSION ON GROWTH OF HIGHER EDUCATION IN INDIA

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ABSTRACT

Higher education is essential for the sustainable growth and development of all countries. Higher education has been under exceptional pressure to provide better access to our institutions. It ensure student learning and success, respond to rapidly changing demographics, increase accountability, and develop greater efficiencies as we face significantly reduced resources, especially in the public sector. India is currently undergoing demographic change where population growth is slowing down, but the number of young people entering the industry continues to grow. This large and young population should be educated to improve the nation. Higher education in India currently faces number of issues such as high dropout rates, identifying students in need, faculty performance etc. The purpose of this research is to investigate and analyse higher education institutions' enrolment in India. This research paper provides a brief survey on growth on higher education system in India.

I.INTRODUCTION

Higher education has been under unprecedented pressures to provide greater access to our institutions, ensure student learning and success, respond to rapidly changing demographics, increase accountability, and develop greater efficiencies as we face significantly reduced resources, especially in the public sector. Strategic enrolment planning is a critical tool in responding to these pressures and overcoming them. Our ability to recruit, enrol, retain, and graduate a diverse, high-quality student body is significantly enhanced by a dynamic and comprehensive plan that includes both a short term and long-term focus, and that is seen as part of an ongoing and adaptive process. Now a day's educational data are collected and stored in educational institution but not studied properly to understand the hidden information from it. Earlier statistical methods were used for this purpose but advent of computer added an advantage of complex study, algorithmic approach, speedy process etc. feature which make it more useful in place of only statistical process.

The proposed research proposal is centred on Strategic Enrolment Management (SEM). According to Wilkinson et.al. "The Age of the Academic Context" started in 2005 with Stan Henderson's article Refocusing Enrolment Management: Losing Structure and Finding the Academic Context. It is in this "age" that SEM branched out to include the academic side of the institution. So far, this "age" has focused on developing and refining the SEM organizational structure and integrating SEM models while being encouraged to reach out to the academic division as SEM partners. The focus is still on increasing enrolment through enhanced recruiting models and the use of financial aid packaging and leveraging coupled with establishing a SEM organizational structure within the institution but there is now recognition that academics are Important to the overall viability of the process.

The Government has given the required thrust to the higher education sector by initiating various plans and committees. Government of India aimed to increase Gross enrolment ratio (GER) to 21% during its Eleventh five year plan (2007-12). To achieve this, the enrolments need to be substantially raised in Universities/Colleges to reach the target by 2011-12[1].

Higher Education is very vital to achieve sustainable growth and development of any country. The University Education Commission (1948-49), under the Chairmanship of Dr. S. Radha krishnan, gave the foundations of the future of Indian Higher Education. The report of the Education Commission (1964-66) under the Chairmanship of Dr. D.S.Kothari symbolized the symbiotic relationship between education and national development. The Central Advisory Board of Education (CABE) Committee was set up in 1921 to enable the Central Government to play an effective role in education, based on consensus among the representatives of the then provincial governments. The

National Policy on Education (NPE) 1986 (with modifications undertaken in 1992) states that the CABE will play a pivotal role in reviewing educational development, determining the changes required to improve the system and monitoring implementation . The Government has also given the required thrust to the sector in its Five Year Plans. During the Eleventh Plan period, India aimed to achieve Gross Enrolment Ratio (GER) to 21% from 12.3% at the beginning of the Plan period [2].

Higher education typically comprises under-graduate, post graduate degrees and pre-doctoral and doctoral programs. According to the National policy on Education (NPE) -86 [1, 2] 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 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. This sector can be further classified as technical and non-technical education. Higher education is presumed as education beyond the school level. It has a place at a university or at a college or an institute. While, the UGC is an umbrella regulation which governs any institution imparting degree, the institution carrying out technical education also needs to comply with operational norms specified under All India Council for Technical Education AICTE (for engineering, management studies etc.) and Medical Council of India MCI (for medical) among others[1,2].

II.LITERATURE REVIEW

In the last ten years, the number of universities / colleges has increased. A large number of graduates / postgraduates are produced by them every year. Universities / institutes can follow the best pedagogy; however, they still face the problem of early school leavers, low achievers and unemployed students. Recognizing and analysing Poor Performance Factors is a complex and unrelenting process, hidden in past and present information and consisting of academic achievement and student behaviour. Powerful tools are needed to scientifically analyse and predict student performance [3].

Monroe County Community College prepared a strategic enrolment plan for period 2015- 2018. In which institution proposed a plan for student retention and success after getting admission. Institutions plan has assumption of tuition fee increase, economy improvement, regional need for skilled workers and state federal agenda [4].

Shasta-Tehama-Trinity Joint Community College prepared an enrolment management Plan for period 2012- 2030 with goals for use of innovative best practices in instruction; student's academic and career success through civic and community engagement

service and institutionalize effective planning practices through implementation, assessment and periodic revision [5].

Luan J and Zhao C M in their book chapter gave recommendation for Institutional Research Professionals that explore the power of real-time database storing; adopt algorithmic bias analysis; explore the use of cluster analysis, association and visualization; Explore the use of data mining in all facets of research, including text mining. Some recommendations also provided for association of institutional research i.e. Develop a regular data-mining training course; work with vendor to reduce cost; provide grant support for data mining in Higher education consortium [6].

Sampath V. in their paper used historical enrolment information for development of a predictive model to estimate the enrolment probabilities of future freshman. They used multiple regression models, relating high school GPA, SAT scores, Distance from college and demographic information on freshman students to their probability of enrolment was estimated. They also mentioned that enrolment patterns may change if there re changes in any factor associated in analysis thus model needs to be constantly tweaked and validated year after year to improve its predictive power [7].

O-Boyle S in their article that SEMMA (Sample-> Explore- >Modify-> Model -> Assess) and CRISP-DM (Cross-Industry Standard Process for Data Mining) are two data processes that are currently being used. He also mentioned that data mining along with traditional data analysis is a very valuable tool that is being used in Strategic Enrolment Management to achieve desired enrolment targets in colleges and universities. Vialardi C in their paper indicated that student academic performance at universities is crucial for education management system. They mentioned that prediction of academic performance opens many possibilities [8, 9].

Mulugeta M and Borena B main contribution was to develop a forecasting for higher education student enrolment at each program level or department level using data mining technology. They divided experiment phase into three groups. The contribution of the research is to plan and resource mobilization experts at the MOE for making correct decision. They also recommended that higher education institution use data mining to build a model for enrolment projection [10].

Zheng Y and Sakruti T mentioned that freshman SAT scores, class and enrolment campus, semester GPA, first generation, low income and other factors were used to predict students performance in the courses. Decision tree, neural network, ensemble methods and logistic regression are common modelling techniques for this purpose [11].

III.OBJECTIVES OF THE STUDY
Various objectives of the current study are- To study the current status of Higher education in India and to analyse the trends in Higher education in India. Student admission, retention and success is dependent on varied factors like student self performance, infrastructural support, teaching aid, personal background etc. Once a student gets admission a new challenge come in front of institution to retain student in the opted course and prepare them so that they become successful.

This research proposal has following objective in above scenario:
• Student profile study for drop out
• Most important reason behind drop out
• What action will minimize dropout
• Finding important factor responsible for dropout
• Suggest necessary steps for retention of student.

IV. HIGHER EDUCATION INSTITUTIONS IN INDIA
The institutions of higher learning in India fall into the following broad categories [1];

a) Universities: These are established by an Act of Parliament or State Legislature and are of unitary or affiliating type. They are called Central Universities and State Universities respectively.

b) Deemed to be Universities: These institutions are given deemed to be university status by the Central Government on the recommendation of the UGC in terms of Section 3 of the UGC Act. Some of these institutions offer advanced level courses in a particular field or specialization while others award general degrees.

c) Private Universities: These are established by various State governments through their own legislation.

d) Institutes of National Importance: These Institutes are declared as such by the Government of India by an Act of Parliament and are empowered to award degrees. In some cases, such Institutes are also set up by the Government through an Act of State Legislation.
e) Premier Institutes of Management: These are the Institutes that have been set up by the Central Government and are outside the formal university system. They offer Post-Graduate Diploma Programmes which are equivalent to Master's Degree Programmes in area of management [12].

V.CONCLUSION AND FUTURE WORK
Higher education in India is becoming important, a lot of researches conducted in this area to increase efficiency of higher educational institutions. Higher education in India currently faces number of issues such as high dropout rates, identifying students in need, faculty performance etc. Data mining, with a set of varied technique, has tremendous application, in higher education of India. Finding's and information with the use of the data mining technique in education provide us with more varied and significant, and lead to increase in the quality of education. Some of the future aspects are retention planning, early alert system, academic advising. lot of work is being done in this direction, but there are still many unaffected areas. In addition, there is no consistent approach between these searches.

REFERENCES
1. Dr. Uma Pujar M.Com., Ph.D., Trends in Growth of Higher Education in India, IOSR Journal of Economics and Finance (IOSR-JEF) e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 2, Issue 6 (Feb. 2014), PP 01-04 .
2. P. K. Manoharan Higher Education: A. P.H. Publishing Corporation, New Delhi.
3. Pooja Thakar, Anil Mehta, Manisha, Performance Analysis and Prediction in Educational Data Mining: A Research Travelogue, International Journal of Computer Applications (0975 – 8887) Volume 110 – No. 15, January 2015.
4. Monroe County Community College, "Strategic Enrolment Management Plan 2015-2018".
5. Shasta-Tehama-Trinity Joint Community College District, "Enrolment Management Plan 2014-17".
6. Luan J and Zhao C M, "Practicing Data Mining for Enrolment Management and Beyond", New Directions for institutional Research, no. 131, fall 2006, Wiley Periodicals.
7. Sampath V, Flagel A and Figueroa C, "A logistic Regression Model To Predict Freshman Enrollments",Paper SD-016.
8. O'Boyle S, "The Use of Data Mining in Higher Education Strategic Enrolment Management", George Manson University IT 103, Section B02, June 20 2013.
9. Vialardi C, Chue J, Peche J P, Alvardo G, Vinatea B, Estrelia J, Ortigosa A, "A data mining approach to guide students through the enrolment process based on academic performance", User model User-Adap Inter (2011) 21:217-248 DOI 10.1007/s11257-011-9098-4 Springer Science+ Business Media B.V. 2011.
10. Mulugeta M and Borena B, "Higher Education Students' Enrolment Forecasting System Using Data Mining Application in Ethiopia".
11. Zheng Y, Sakruti T, "A Data Mining Approach to Predict Student-at-risk", Paper 1337-2017.
12. Loren, J. (2011, May 27). SAT test demanding teen information prompts regulator query. Retrieved June 7, 2013.