

Quantification of Redundancy in Faculty Hiring Number in Private Engineering Colleges in India

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Abstract- In this research investigation the author sheds lights on the aspect of Quantification of redundancy in faculty hiring number in private engineering colleges in India. This measure of redundancy can be useful in computing faculty attrition-rate and also consequently gauging the standard of the institution.

Index Terms- Faculty Retention Rate

I. INTRODUCTION

The present capacity and number of engineering colleges in India certainly speaks for the demand of engineers that are required by various industries. Though there was good spike in the number of colleges that were approved by government in last one decade, these colleges are not doing well for the nation nor for the industry. These days the quality and caliber of an engineer has substantially come down multi-fold due to the mushrooming of more than required number of private engineering colleges in the country. In addition to this, since past one decade, certain state government education policies are equally doing more harm rather than contributing constructive good for the nation. The irony is that out of several colleges that are approved to impart various engineering courses in the nation, most are fully equipped neither with proper infrastructure nor with proper teaching staff. Today several lakhs of engineering seats are waiting to be filled in by students passing from ten plus two and they are offered to even students without any merit. Majority of private colleges are setup driven with an intention of profit making and not with an attitude of welfare. [1], [2]

Engineering is a professional degree that equips one with superior analytical and professional skills that can solve industrial problems to foster profit and

healthy competition globally. Various state governments believe that highly skilled human resources can be produced by setting up top class engineering colleges / institutions / universities to satisfy the emerging job market in India and abroad. Clearly missing are the need of capable intellectuals, qualified faculty, regulations that are required to guide the private management to retain and invest on faculty, who need to be seen as engines that carve the youth's intellectual abilities. Andhra Pradesh alone has 2.5 lakh seats to offer engineering courses, whereas according to All India Council of Technical Education (AICTE), there are just 4 lakh of qualified faculty are employed throughout the country which is clearly under serving the need of human resources required to produce quality professionals. Out of these, nearly 50 thousand faculty are seen on various other college pay roles, violating norms of AICTE. Several colleges lack in hiring faculty with proper PhD's or sometimes they don't have qualified experienced faculty, creating pressure on inexperienced teaching staff that exhibit poor quality teaching methods.

One of the petitions filed by a professor of a private engineering college clearly states that management of these colleges implement out dated methods while recruiting and retaining the faculties. Private colleges have harsh policies that confiscate the original degree certificates, withholding salaries for months together mounting to blackmailing and harassment at the workplace and under hiring of teaching staff is also very common. Also it is found that some colleges are successful in misguiding AICTE by showing fake faculties at time of affiliation, mainly to manipulate the student teacher ratio. Many a times fresh graduates are hired who have little or no knowledge on teaching techniques. Colleges also do not invest in

upgrading their faculty skills at par with the industry. Other issues are poor washrooms, infrastructure, library's, improper leave policies, and no proper redressal of employee grievances and also policies that do not accommodate gender needs at the work space etc. These practices always failed to retain right talent in any organization, especially the private engineering colleges. As we know the weak pillars can never support to erect high buildings, similarly the de-motivated faculty fails to produce high quality engineers in the country.

Rehiring has always proved to be catch 22 for several colleges mainly, when recruitment has to be done during the mid of the semester. This always creates inconvenience to the students who have been used to understand and learn the concepts with a certain method of teaching. Since most of private colleges are not organized, the new faculty has to take up several measures with assumptions which prove to be time consuming. To impart Engineering course, high skills and intellect are always needed that can match with the latest know how of the market and academic field, the sudden change of faculty always create confusions among students and shows an impact on the learning of the student. In the urgency of course completion the proper care is not given to explain the concepts in depth. The mathematical aspect of every engineering subject has been challenging for both to the student to catch up with the new faculty and as well as for the faculty to teach. The acquaintance of teacher and student always plays crucial role in preparing the lesson plan. In this case the new faculty is totally unaware about the student receiving / learning capacity. Accommodating and understanding each other in a highly technical environment, the pressure is on the both sides and it certainly needs a full cycle of a semester to complete. Due to the this constraint, there is high possibility of compromising on the faculty's teaching experience, also assessing the passion of teaching can be unnoticed, these changes have high potential to impact the student learning.

The motto of running an engineering college / institution / university has to be always the welfare philosophy, not profit making. The thought process of management always trickle downs to the day to day affairs, that reflect on the organization policies. The lack of bigger vision that these private college managements have, always undermine that the skills

produced by their organization which has high potential in impacting growth and development of the nation, makes them to deviate from main goal of quality teaching and quality experience of student. The quality teaching is not alone dependent on the faculty, it has also depend on various factors including environment and student experience with infrastructure and several other factors that are required for intellectual growth and development of a future engineer. The retention rate of any organization generates knowledge that helps to improve the process eliminating various challenges that are specific to the academics. As long as the faculty is subjected to various inconvenience and harassments in the organization it will be difficult to retain the highly skilled teaching staff. The best practices of any organization are key to be successful. Continuously up grading the skills of the teaching staff and creating platform of opportunity to test their knowledge and innovations should be encouraged. The student teacher ratio should be maintained as prescribed by AICTE norms, this surely results in quality teaching.

II. ESTABLISHMENT OF THE REDUNDANCY IN FACULTY HIRING NUMBER MODEL

Redundancy in Faculty Hiring

We propose the formula for Faculty Redundancy (*FR*) as follows:

$$FR = 1 - \left(\frac{E}{B} \right)$$

Where A = the number of faculty positions filled per semester for full course work

B = the number faculty positions necessary per semester for full course work

C = the faculty positions that were filled because of some faculty leaving in between a semester in an engineering college in a given Semester to cover the complete course work when standard norms of faculty course loads are followed.

D = the number of faculty positions that became empty as these faculty left during the semester

E = The number of faculty positions filled per semester = $(A - D + C)$

That is,

$$FR = 1 - \left(\frac{A - D + C}{B} \right)$$

This value can be calculated on a semester basis and can be plotted for any four year engineering program course through the 8 semesters. Zero Redundancy in hiring gives us a FR value of 0 and any higher value can be multiplied by 100 to give percent Redundancy in hiring.

IV. CONCLUSIONS

The above model can be used for computing Redundancy in faculty hiring. This can also be used for gauging the Institutions Standards as well.

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