

Top Eleven Factors Which Influence the Choice of Under-Graduates for Technical Courses

Poonam Singh, Sachin Ahuja, Shaily Jain



Abstract:- Objective: To study and find the factors which influence the choice of students to get enrolled in technical course. The study will help the college students in choosing the pathway for successful and in time graduation from the aspect of students. The students and faculty members were interviewed and rigorous literature survey was done to identify the factors which influence the admissions in technical courses. These factors were then reviewed by experts and a Google form was prepared. The Google form was circulated amongst students of two Indian Private Universities. Respondents were asked to rate the factors on likert scale of 5. Partial correlation test was done to find the most significant factors. According to students the most important factor is "Better Private job opportunities" as it is the highest rated factor.

I. INTRODUCTION:

The work in the paper is an attempt to figure out the factors which affects the decision of students to take admission in technical courses. Recently U.S National Research Council was struggling with a challenge of alarming rate of students leaving the higher education incomplete. The study can help the college students in choosing the pathway for successful and in time graduation from the aspect of students. Effective theory of learning from teacher can help students to retain and persist the graduation (Karypis, 2017).

Condition of technical courses in India is also not so good as the Number of Institutions are high but the quality is not meeting expectations of students so there is a high need of study which can help administration to reach the expectation levels of students.

The work done in the paper advanced the research on factors which effect the admissions in offline technical courses. This will assist students prior to take admission. Provide valuable guidance to the institutes to target the entities which effects the admissions. Information from this study will assist administrators in targeting the factors on the basis of which they can attain student's satisfaction. The work is important for learners of this generation as the internet use is increasing exponentially the options for learning is also increasing.

Now learners have options like digital libraries, learning object repositories, mobile learning management systems the personalized learning which further open doors for personalized learning (Boticario et al.,2012, Kalz and Specht, 2013)).

The options are creating confusion in minds of students. The available option is to take an advice from faculty but research like (Gaytan, 2015) proved that perceptions of teachers and students are different.

A lot of work has been done to help the students in field of education. Field of education can be related to learning material (Ghauth. and Abdullah., 2010), Learning items, Learning style and e-learning (Truong., 2016) Subject specific learning systems like vocabulary learning system on mobiles (Chen and Chung, 2008) etc.

To help the learners a survey based study was conducted in Saudi Arabia and found that there is significant relation between adoption and productive browsing and utilization of the e learning system. The work concluded that to ensure the student persistence in e-learning students/learners must be encouraged to improve their awareness and proficiency to use the e-learning system (Alharbi and Sandhu, 2018).

There is a scope of improvement in educational sector where recommender systems can assist student to choose proper learning pathway. A recommender system was specifically designed to assist learner in choosing accurate recommendation for elective module. The approach followed in the system was the integration of concepts of variety and similarity obtained from the structured information of the modules (Hagemann et al., 2018).

Furthermore a process was designed to improve the performance of the learners. The process was made on the basis of learning analytics and recommender systems which assists student to choose activities remote library. The system provided a service which Guide the students about the frequent mistakes in assembling the circuits. The information was also significantly helpful for teachers in making impactful strategies (Gonçalves et al., 2018).

Similarly a system was developed which explored the pattern of learners history integrated with data and information of the learners, teachers and courses. On the basis of the record of students system predicts the grade of the students during the next enrollment. The work concluded that there is significant relation between performance of learners and characteristics of Teacher (Sweeney et al., 2016).

A new emerging path in education is technology enhanced learning (TEL) which covers transformation in education and learning. The main purpose is to plan, formulate and asses the technology in field of learning. This includes all personalized, group or institutional processes of supervising the knowledge management. In other words the scope of TEL is all versions of activities which involve teaching and learning (Drachler et al., 2015).

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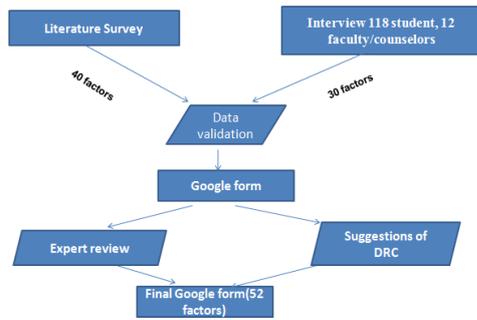
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II. METHODOLOGY:

We identified the factors which influence decision of students to take admission in particular technical course. To identify the factors we interviewed the students and faculty members. We interviewed around 118 students and 12 faculty members. All of them are from two different campuses of Indian university. To give the clear picture of methodology the abstract workflow is presented in figure 1. The demographic attributes of interviewed students are presented in form of pie charts below.

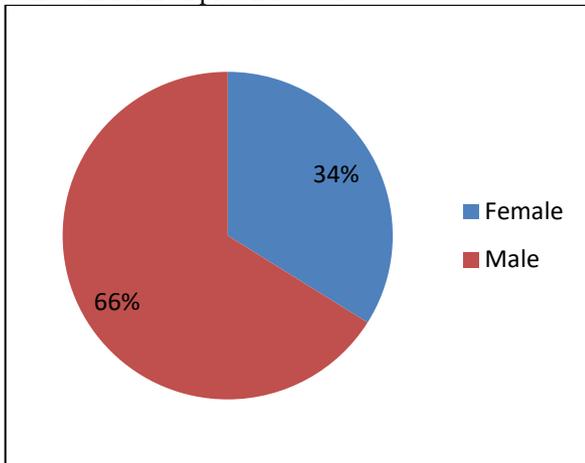


Figure 2 Gender wise data of interviewed students

Figure 2 represent the gender wise data distribution of interviewed students Figure 3 represents the pie chart of age wise distribution of data as the data is of undergraduate students majority of the students are of 18 and 19 years of age,

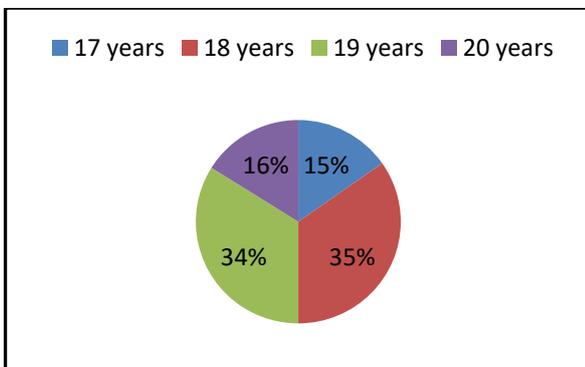


Figure 3 Age wise data of interviewed students

Figure 4 contains the details of percentage wise distribution of interviewed students. Most of the student who were interviewed had score between 80-100 percent. The opinion of faculty is also included in this phase 12 faculty members were included in the interview. The teaching experience of the faculty is given in the form of

bar graph. Figure 5 contain the graph chart of the teacher's experience. The teaching experience of the faculty was from range 0 to 8years. Out of 12 interviewed faculties 5 were of 2 to 5 years of experience.

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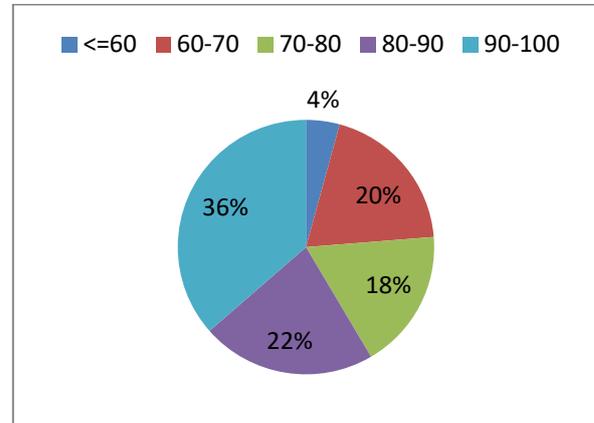


Figure 4 Percentage wise data of interviewed students

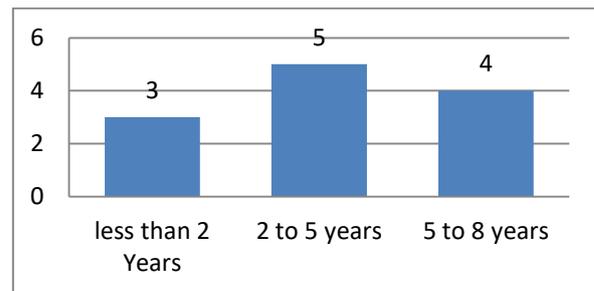


Figure 5 Teaching Experience of interviewee teachers

After interviewing 118 students and 12 faculty /counselor we figured around 30 factors

These factors were majorly from categories

1. Personal
2. Recommendations related
3. Institution related
4. Finance related

To find more relevant factors we explored the related literature Paper.((Kalia,1995) is one of the most sighted paper which identified the factors which effects the admissions in academic course .They found around 45 factors and concluded that most influencing factors are work-related concerns, spouse considerations, financial aid, and the campus social environment.

After analyzing the factors identified in paper (Ognjanovic et al., 2016, Ahmad and Hussain, 2017, Ahmad and Buchanan, 2017) we designed the form and found that these factors can be classified in following categories:-

1. Course related
2. Personal development related
3. Learning environment related
4. Recommendations related
5. Institution related
6. Socio cultural related
7. Collaboration related
8. Finance related

- 9. Personal care related
- 10. Demographic

Using these categories we prepared around 40 more factors (excluding previous 30 factors)

Around 70 factors were identified after interview and literature survey. We designed a google form with these 70 factors using following steps

Step1: Google form was designed for students. The form includes 12 questions.

Step 2: Validation checks were applied (Sun, 2011).

Step 3: We took advice of experts of the academic field. Experts suggested 5 new factors .We included those factors

Step 4: DRC (Doctral Research Commity Chitkara University Punjab) Reviewed the Google form which was designed up to this phase at that time it had 75 factors .DRC suggested to reorganize the sequence of factors and filter the factors.

Step 5: After the suggestion of DRC and Supervisor we selected 52 factors out of these 75.

The data is collected from two campus of Indian private University Chitkara University (HP and Punjab).

In the Google form we included 52 factors .Students were asked to rate each factor Likert scale of 5.The students were instructed to give a rating 4 to the factor which is most important and 0 if this was not the reason for them to take admission in the course. We included B. Tech, BCA, B. Pharma, MCA and MBA in technical courses.

The 52 factors which were in the final Google form were from following 9 categories.

1. Personal/Professional Growth:-Personal/professional growth is measured using 7 factors.
2. Personal/social reputation:-Includes four factors
3. Course:-this category contain 4 factors
4. Personal needs:-this category consists of 3 factors
5. Recommendations:-Recommendations category includes the persons/services who can give recommendation to students
6. University Reputation:-This category includes factors which plays role in reputation of university
- 7.
8. Institutional facility:- this category is measured using 13 factors
9. Institutional environment:-This category includes 9 factors
10. Financial:-Financial reasons can be measured with two factors

The details categorical division of factors is present in table 1.

After making the google form the next task was to collect the data from university and find the most influential factors. Figure 6 give the clear picture of data flow.

The data was collected using google forms. The respondents were 889 students of First Year in B. Tech, BCA, B. Pharma, MCA and MBA courses offered by two private Universities in India: Chitkara University, Punjab & Chitkara University, Himachal Pradesh.

As presented in figure 6 we performed Correlation test to find the significant factors which affect the admission in technical course.

The partial correlation is used to calculate the degree of relationship among two variable keeping all other related variables constant. To calculate the partial correlation we need to make one variable as dependent variable and other variables need to be labeled as independent variable(Cleophas and Zwinderman, 2018).

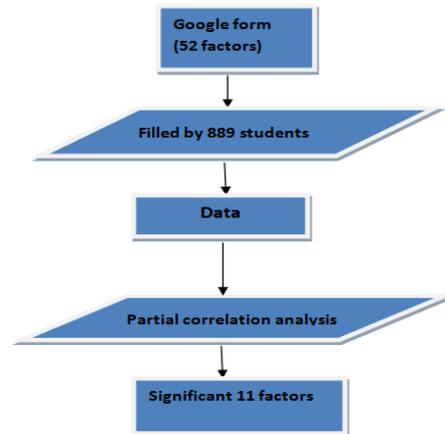
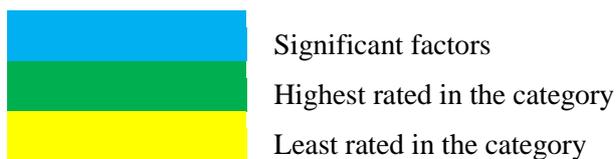


Figure 6 DFD to find the most significant factors

Table 1 Statistical analysis of factors



Category	Factor	Rating
Personal/Professional Growth	Better Private job opportunities	2.37
	Better Govt. job opportunities	1.53
	Better growth in business	1.60
	Research opportunities	1.68
	Political reasons(opportunity to join Politics)	0.83
	Student exchange program in foreign universities	1.93
	Help in higher studies	2.17
Personal/social repute	Course is accepted internationally	2.03
	Course is giving high social reputation	1.7
	To add degree in resume	1.72
	Course is accepted internationally	2.03
		7.48
Personal needs	Ability to pursue course and part time Job	1.41
	Fit in educational plan of spouse/partner	1.15
	Qualities of students enrolled in this course	1.55
Course	course eligibility that is Score of previous class/degree	1.62
	Difficulty level of course	1.59
	Duration of course	1.59
	Interest in the course	2.26
Recommendations	family	1.66
	freinds	1.18
	Teachers	1.14
	Agents	0.79
	Alumni	0.85

	Media	0.84
University Repute	Recognition Institute/university	1.8
	Ranking	1.85
	Reputation of professor	1.79
Institutional facility	Research facilities	1.56
	Availability of Laboratories	1.71
	Easy admission process and policies	1.53
	Higher quality of education	2.08
	Diversity of course offering	1.74
	Proper student mentoring	1.87
	Availability of Wi-Fi	1.49
	Availability of ERP	1.45
	Library facility and collections	1.89
	Highly maintained hostel/rooms	1.34
	Availability of child care	1.35
	Availability of housing	1.25
	Availability of Good Quality/hygienic food	1.37
	Availability of Good Medical care	1.48
Institutional environment	Quality of day to day campus life	1.59
	Institution is safer area to live and study	1.75
	Religious homogeneity	1.35
	National/International Institutional collaboration & Linkages with other universities/companies	1.98
	Geographic proximity to home /relatives	1.34
	Climate	1.78
	English-speaking	1.73

Top Eleven Factors Which Influence the Choice of Under-Graduates for Technical Courses

	environment	1.74	
	Interaction with students from diverse cultures and religious		
	Economical and political stability		1.5
	Student -teacher ratio		1.7
Financial	Lower cost of living	1.17	
	Scholarship schemes	1.25	

Table 2 The significant factors which effects the admission in technical course.

Factors	Level of significance
Help in higher studies	0.01
Difficulty level of course	0.035
Research opportunities	0.004
Ability to pursue course and part time Job	0.013
Higher quality of education	0.007
Proper student mentoring	0.014
Availability of ERP	0.002
Highly maintained hostel/rooms	0.007
Availability of child care	0.013
Availability of Good Quality/hygienic food	0.008
Student -teacher ratio	0.018
Student exchange program in foreign universities	0.007

Implementation of partial correlation to find the most influential factors is very common like it was used in biochemical data to find the significant relations in geonomic data (De et al., 2004) in recent years it is applied in many fields like financial market (Kenett et al., 2015), Thermal power industry (Liu and Li, 2017), medical (da et al., 2016)

The field of education is also using partial correlation very frequently For example a study was conducted to find the most influential factor which affects the career choice of management students. The survey was conducted in the universities of Karachi. It collected the data of 770 students of management course that is students of MBA/BBA. To find the most influential factor partial correlation analysis was done. The results of correlation analysis were fed in regression analysis. The correlation analysis was done on SPSS. The study concluded that in the case of management

students “interest in subject” is the most influential factor (Ahmed et al., 2017).

Similarly (Stoliker et al., 2015) conducted a survey to find whether emotional state of students has any association with the overall academic performance. The emotional state of students was measured using emotions of isolation, tension and extent of learning exhaustion. The study was conducted with help of questionnaire in which 150 students participated. To find the significance of association between the emotional states and academic performance correlation analysis was performed (Stoliker and Lafreniers, 2105).

We performed Correlation test on IBM SPSS 25 to find the significant factors which affect the admission in technical course and the results are shown in table 2. The criterion for selection was level of significance < 0.05 .

III. RESULTS AND DISCUSSION:

To get the précised information of the factor we performed the statistical analysis of ratings obtained. Table 1 contains the statistical analysis of the ratings obtained after the data collection

Definition of variables

Dependent variable:-

Course:- Here course refer to the technical course in which student is registered

Independent Variables:-

The 52 factors expressed in column 2 of table 1 are the independent variables.

We performed Pearson correlation test to get the answers of following research questions

R1: Is there any significant relation between better private job opportunity and technical course selection of student
The variables where significance level is lesser then .05 are those factors which affects the course selection. Table 2 represents the factors which have significant impact on course selection.

IV. CONCLUSION:

• After performing the Correlation analysis we found that following eleven factors have s a significant role in selecting the technical course.

1. Difficulty level of course
2. Research opportunities
3. Ability to pursue course and part time Job
4. Higher quality of education
5. Proper student mentoring
6. Availability of ERP
7. Highly maintained hostel/rooms
8. Availability of child care
9. Availability of Good Quality/hygienic food
10. Student -teacher ratio
11. Student exchange program in foreign universities

• After analyzing the factors we found that there are 11 factors which affect the student's selection of technical course. Out of these 11 factors 6 factors lies in the category institutional facility. By this we can conclude that students give highest importance to the facilities provided by the institution/university

• The Highest rated factor is " Better Private job opportunities".

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