Analysis of the Factors Influencing the Choice of College for Higher Education

Deepshikha Aggarwal[1*], Deepti Sharma[2]

[1,2]Department of Information Technology, Jagan Institute of Management Studies, Delhi, India

*Corresponding Author: deepshikha.aggarwal@jimsindia.org

Abstract- The higher education sector in India is witnessing a remarkable growth and there are ample opportunities available to the students in terms of choice of courses and institutions for higher education. The institutes are facing a tough competition amongst each other to attract the maximum number of eligible candidates for higher education courses. This paper examines the influence of different factors affecting the college choice decisions of graduate students going for the MCA (Masters of Computer Application) course at the post graduate level. The most relevant factors that were found to influence the decision are faculty, infrastructure, placement, influence of others, extracurricular activities and online advertising. The purpose of study is to identify the factors and their relative influence on the students' choice for college enrolment. We have used the Pearson's Chi-square test to conduct the research as we intended to analyse the level of impact of the different factors on the students for the selection of college for higher education. Experimental results have been obtained with the help of different graphs showing the impact of different influential factors on students coming from different graduate level courses. This research can be helpful in providing a guideline to higher education institutes to formulate their strategy to attract the students by considering the various factors that influence the choice of students for selecting a college for higher education.

I. INTRODUCTION

As higher education has transformed in many ways, the decision for college enrolment has become increasingly complex during the last 30 years. Students do graduation in different streams like Arts, Commerce, science, computers etc. After completion of graduation, few opt directly for placement and others go for post-graduation. A student's decision to enrol depends on range of factors that influence his decision. Factors such as cost and the availability of financial aid are universally important at all types of institutions. However, other factors can vary widely by institution type, demographics, class level, and whether the student enrolled at his or her top choice. While selecting any college or university, they have different questions in their mind like how this college will help me in achieving specific career goals, what will be the financial aid and other factors like faculty, extra-curricular, college infrastructure and many more. There are different factors that influence the choice of a college and in this paper we have tried to analyse the impact of the most relevant factors in the choice of college for higher education. It is important to consider various factors and analyse them carefully before choosing a college that best suits the needs of an individual. For conducting this study, we have considered students who have done various graduate courses like BCA, BBA, BSc (IT), B.Com, and

BSc and are willing to take admission in Masters in Computer Application (MCA) course at post graduate level. We have analysed the data collected from these students and were able to get results that demonstrate the influence of various factors on college choice and also the impact of factors on students coming from different backgrounds.

II. PURPOSE OF THE STUDY

The process of selecting college or university and the factors of substantial influence have been a regular research topic during the past twenty years [6]. This research has been carried out with the intention of studying the impact of different factors on the students for selection of the college for MCA course. The MCA (Masters in Computer Application) is a post graduate course in computer application and students from different backgrounds in terms of the course done at the graduation level apply for this course. Due to this reason they may have different expectations from the college and may be impacted by different factors for college selection.

The results would help the colleges in preparing themselves for the varied demands of the prospective students. When the students come to the institutes for admission enquiry and counselling, these results would help the counsellors in

better guiding of students. The research outcomes can also help the institutes in developing their marketing strategy accordingly. For example if the student coming from a management course at the graduate level is more affected by a particular factor, then the advertisement of the college for this set of students may be designed differently.

III. FACTORS AFFECTING SELECTION OF COLLEGE

There are various factors that may affect the choice of college by students. In this study, following factors are considered:

1) Brand name: brand name of an institute plays a very important role in influencing the youth for selection of an institute for higher education. The higher education institutes are doing a lot of work these days to build their brand through various forms of advertising both online and offline.

2) Faculty: faculty plays an important role in higher education as the students coming for these courses are mature enough to understand the role of faculty in shaping the future of their students. The faculty is judged mainly on the parameters such as educational qualification, number of years of experience and research.

3) Infrastructure: infrastructure includes the physical infrastructure of a college such as the building, classroom amenities and since this research was conducted for an MCA course, the computer lab facilities are very important.

4) Placements: the MCA is a post graduate course and student's desire for campus placements after completion of their degree. Therefore, the placement record of the institute is also a major consideration for seeking admission.

5) Influence of friends/ relatives: the students are easily influenced by friends and family when it comes to the selection of a college. So this factor has also been considered in this research.

6) Location: the location of the college is important because the connectivity through public transport such as metro and proper roads is required for reduced travel time. The students would not like to waste their time in travelling. For some students accessibility to shopping and entertainment areas may also be important.

7) Fee structure: The fee structure of different colleges may be different for the same course and some colleges may also be offering some kind of financial assistance. This factor may be an influence for certain category of students.

8) Extracurricular activities: The activities conducted by the college apart from regular studies such as competitions, festivals, workshops, etc. may influence the selection of an institute.
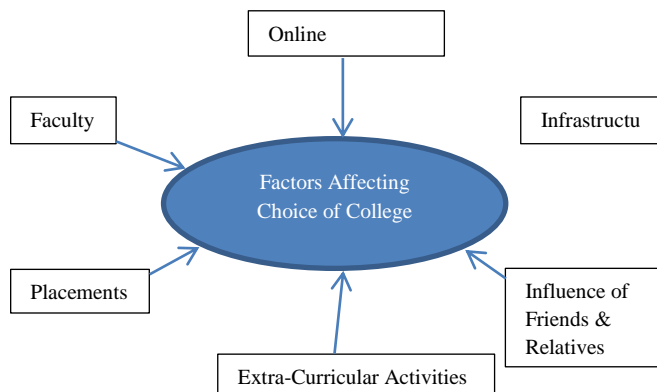

Fig. 1. Factors affecting choice of college

IV. RESEARCH METHODOLOGY

The pupose of the research is to study the factors influencing the students to choose a college for MCA course. The data is collected from students who have completed their graduation and have applied for admission to MCA course for post graduation. The choice of factors was given to the respondents and they had to select the factor that has the highest impact on them for the selection of college. The data obtained was analysed using the Pearson's Chi-square test and the results were used to conclude the impact of various factors on college selection.

The Chi-square test is a statistical method intended to test how likely it is that an observed distribution is due to chance. It is also called a "goodness of fit" statistic, because it measures how well the observed distribution of data fits with the distribution that is expected if the variables are independent.

A Chi-square test is designed to analyze categorical data. That means that the data has been counted and divided into categories. Another way to describe the Chi-square test is that it tests the null hypothesis that the variables are independent. The test compares the observed data to a model that distributes the data according to the expectation that the variables are independent. Wherever the observed data doesn't fit the model, the likelihood that the variables are dependent becomes stronger, thus proving the null hypothesis incorrect.

The following table represents the input to the Chi-square test:

Table 1. Data Input

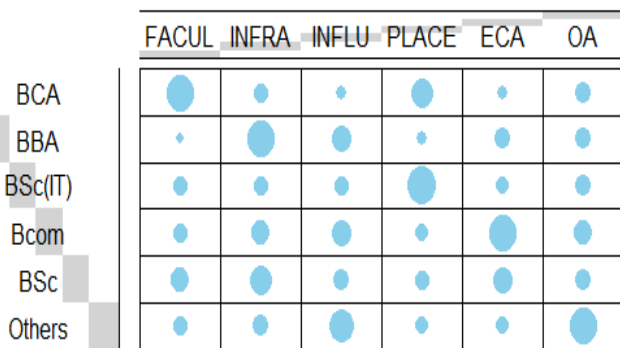|	FACUL	INFRA	INFL U	PLAC E	EC A	OA
BCA	15	4	2	9	2	5
BBA	1	15	7	2	5	5
BSc(IT)	4	4	4	16	3	5
Become	4	6	7	3	14	6
BSc	6	9	5	4	7	5
Others	4	5	12	3	3	15

Fig. 2. Graphical display of contingency table

FACUL-Faculty, INRFA-Infrastructure, PLACE-Placement, INFLU-Influence, ECA-Extra Curricular Activities, OA-Online Advertisement.

Pearson's Chi-squared test has been used to examine whether rows and columns of the contingency table are statistically significantly associated. The results obtained from chi-squared test are:
X-squared = 94.959, df = 25, p-value = 4.37e-10

- **Null hypothesis (H0)**: the course studied at graduation level and the factors influencing the choice of college are independent.

- **Alternative hypothesis (H1)**: the course studied at graduation level and the factors influencing the choice of college are dependent

For each cell of the table, we have calculated the expected value under null hypothesis. For a given cell, the expected value is calculated as follows:

e=row.sum*col.sum/grand.total
The Chi-square statistic is calculated as follows:
$\chi^2 = \sum \frac{(o-e)^2}{e}$
- o is the observed value
- e is the expected value

This calculated Chi-square statistic is compared to the critical value (obtained from statistical tables) with degree of freedom and p = 0.05. In our data, the row and the column variables are statistically significantly associated as p<0.05

V. DEPENDENCE BETWEEN GRADUATE COURSES AND FACTORS

We have used Pearson residuals to find the most contributing cells to the total Chi-square and plotted the values.
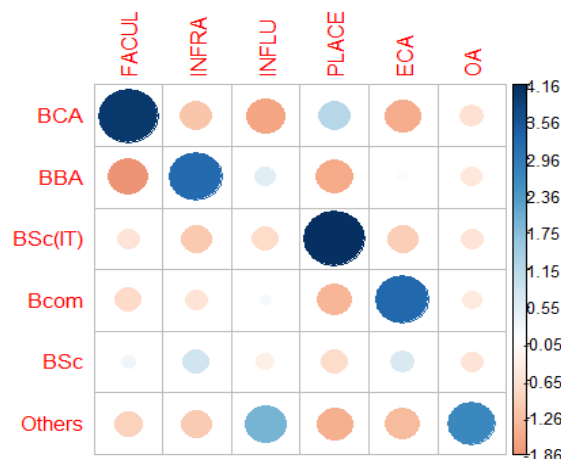

Fig. 3. Pearson residuals

The size of the circle is proportional to the amount of cell contribution. The sign of the standardized residuals is also very important to interpret the association between rows and columns as explained in the block below:

1. **Positive residuals** are in blue. Positive values in cells specify an attraction (positive association) between the corresponding row and column variables.

   - In the image above, it's evident that there are an association between **Faculty** and **BCA**
   - There is a strong positive association between the I**nfrastructure** and **BBA.**
   - There is a strong positive association between the **Placement** and **B.Sc. (IT).**
   - There is an association between the **ECA** and **BCom.**
   - There is an association between the **OA** and **Others.**

2. **Negative residuals** are in red. This implies repulsion (negative association) between the corresponding row and column variables. For example the **Faculty** are negatively associated (~ "not associated") with **BBA**. There is repulsion between the **Influence** and, **BCA.** Also, the **Placement** and **others** are negatively associated.

VI. RESULTS AND CONCLUSIONS

The results obtained after performing chi-squared test clearly indicates that there is strong association between the course studied at graduation level and factors influencing the choice of college.
The contribution (in %) of a given cell to the total Chi-square score is calculated as follow:
Contrib = $\frac{r^2}{\chi^2}$
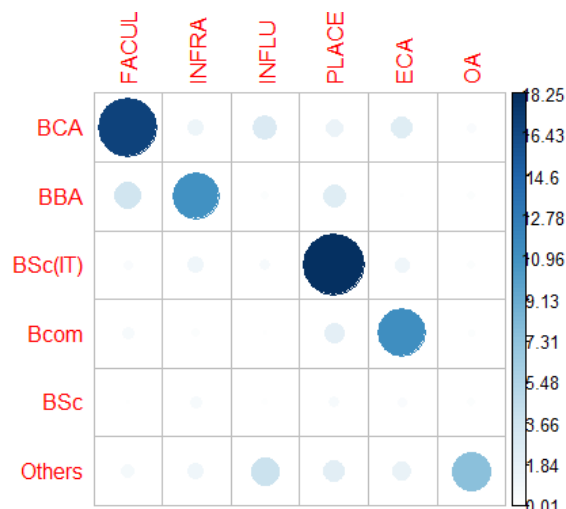where, **r** is the residual of the cell

Fig 4   Contribution in percentage

From the above figure, it can be concluded that:
1. The "Faculty" is strongly associated with BCA.
2. The "Placement" is strongly associated with B.Sc.(IT)
3. The "Infrastructure" is associated with BBA
4. The "Extra-Curricular Activities" is associated with BCom.
5. The "Online Advertising" is associated with Others.

It can be concluded from Fig4 that the most influential factor for the selection of a higher education institute is "Placements" with 18% impact on students from BSc (IT). The "Faculty" with 16.83% has a strong impact for the students who have done BCA course in graduation. The other influential factor is "Infrastructure" with 11% impact on the students who have done BBA course in graduation. "Extra-Curricular Activities" has 11.5% impact on BCom students whereas "Online Advertising" has 7.5% impact. Together these cells contribute about 65% to the total Chi-square score.

The overall conclusion of this research is that students coming from different backgrounds in terms of courses at graduation level are influenced by different factors when it comes to selection of college for higher education and it must be a consideration while formulating the admissions strategy by the institutions providing higher education courses.

REFERENCES

[1] Water, D., Abrahamson, T. & Lyons, K., High-achieving seniors and the college decision, Lipman Hearne Key Insights, 2009.
[2] Somers, P., Haines, K., & Keene, B.. Toward a theory of choice for community college students. College Journal of Research and Practice, 20, 53-67, (2006).
[3] Niu, S.X., &Tienda, M. , Choosing college: Identifying and modeling choice sets. Social Science Research, 37, 416-433 (2008).
[4] Chapman, R., Toward a theory of college choice: A model of college search and choice behavior. Alberta, Canada: University of Alberta Press (1984).
[5] The analysis of Factors affecting choice of college: A case study of UNLV hotel College students
[6] A study of factors associated with student choice in the university selection process, A Thesis Submitted to the Faculty of Education of The University of Lethbridge in Partial Fulfilment of the Requirements for the Degree MASTER OF EDUCATION, LETHBRIDGE, ALBERTA October, 1989
[7] Factors influencing the college, choice decisions of graduate students, Ruth E. Kallio, Research in Higher Education, Vol. 36, No. 1, 1995
[8] Hayes, Jeremy J., "Increasing Enrollment: Evaluating College-Choice Factors at a Midwest Christian University" (2014). Ed.D. Dissertations. 70.
[9] Temple, Shawn Lea, "Factors that Influence Students' Desires to Attend Higher Education" (2009), Seton Hall University Dissertations and Theses (ETDs). 420.