


Identifying and Ranking the factors of Student Choices for Universities and Academic Disciplines with the Most and Least Applicants Across Five Experimental Cohorts in National Entrance exams from 2017 to 2022

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ABSTRACT

The present study aimed to identify and prioritize the factors that influence candidates' preferences when selecting universities and academic fields, focusing on those with the highest and lowest preferences across five experimental groups during the national entrance exams from 2018 to 2022. A descriptive-survey approach was utilized to meet the study's goals. The population of this study encompassed all students enrolled in various disciplines within these five groups over the specified years. A sample of 646 students was conveniently chosen for participation. To gather data, a custom-designed questionnaire with 22 questions was used. The data was analyzed using descriptive statistics (mean, standard deviation) and inferential statistics (one-sample t-test, Friedman test and Mann-Whitney U test) through SPSS 26 software. Analysis revealed that students in highly preferred universities and fields prioritized factors in the following order: 1- labor market, 2- University branding, 3- University's geographical location, 4- Educational quality, 5- Facilities and student services, 6- Psycho-social influences. Conversely, students in less preferred universities and fields ranked these factors as follows: 1- labor market, 2- University's geographical location, 3- Student welfare facilities and services, 4- Psycho-social influences, 5- University branding, 6- Educational quality. Additionally, significant difference was observed among five factors between the two groups ($p < 0.001$).

Keywords: Higher education, National entrance exams, Popular fields of study, Less popular fields of study, Popular universities, Less popular universities.



Introduction

One of the most significant decisions that determines the career path and future of individuals is the choice of university major (Enayati Neitin, Darani, and Kermadoust, 2012). This process of decision-making is influenced by various factors such as environmental conditions, cultural contexts, and available resources, which can affect students' academic behavior (Schützeiner et al., 2017). According to most studies, the process of selecting a major and university can be explained based on four models: economical models, sociological models, combined models, and marketing approaches. The Chapman model (1981) focuses on future concerns, family characteristics, and university features like tuition and location in students' decision-making. Decision-makers such as school counselors, teachers, friends, and parents significantly influence students' choices of majors and universities. The Holdsworth and Nind model (2006) identifies variables like costs, proximity to home, and job prospects that affect students' decisions. The Hassler and Gallagher model (1987) outlines three stages: desire to study, information search, and final selection of a university. Kotler and Fox's marketing model emphasizes geographic location, tuition, and advertising as key factors in university choice. Communication tools like brochures and websites are important for students when selecting a university. Research shows that personal, professional, social, and family factors heavily influence students' major choices. Studies indicate that students often choose majors based on peer influence rather than genuine interest or aptitude. Academic reputation and job prospects are crucial in students' decisions about universities and majors. Also, there is a growing trend towards fields like medicine, while interest in basic sciences is declining. Understanding these factors can help improve educational guidance and align student choices with national needs. Based on above mentioned, primary questions this research aims to address are as follows:

1. What are the factors and priorities influencing candidates' preferences for universities and majors with the highest demand Across Five Experimental Cohorts in National Entrance exams from 2017 to 2022?
2. What are the factors and priorities influencing candidates' preferences for universities and majors with the lowest demand Across Five Experimental Cohorts in National Entrance exams from 2017 to 2022?
3. Is there a significant difference between the factors influencing major/university selection Across Five Experimental Cohorts in National Entrance exams from 2017 to 2022 among students enrolled in high-demand versus low-demand majors/universities?

Methodology

This study is a descriptive-survey research. The statistical population of the study included all accepted candidates in one of the majors of the five experimental groups in National Entrance exams from 2018 to 2022. Using Cochran's formula, a sample size of 384 was determined, leading to a survey of 640 students enrolled in high-demand and low-demand majors. The sampling method was convenience sampling. Inclusion criteria for the study included willingness to participate, being an accepted student at a university between 2018 and 2022, and currently studying in one of the majors of the five experimental groups. Exclusion criteria comprised incomplete questionnaires and withdrawal from participation. The data collection tools included two researcher-made questionnaires. The first questionnaire contained demographic characteristics of the study units, including age, gender, marital status, religion, university of study, major and field of study, year of university admission, selection priorities, current occupation, and parents' education. The second questionnaire consisted of a 22-item researcher-made tool aimed at identifying factors influencing candidates' preferences for universities and majors with the highest and lowest demand in the five experimental groups in National Entrance exams from 2018 to 2022. This included factors such as reputation (4 items), student facilities and welfare infrastructure (4 items), educational quality (4 items), geographical location of the university (3 items), labor market (3 items), and psychosocial factors (4 items). The design of the questionnaire was based on a review of relevant domestic and international literature to extract the main components aligned with the stated issues, objectives, and individual, environmental, social, familial, and cultural variables pertinent to the statistical population. The questionnaire consisted of 22 questions rated on a Likert scale from very low (score 1) to very high (score 5). The sum of responses in each section determined the individual's score for each factor. The scoring range was from 22 to 110, with specific ranges for each factor: reputation (4 to 20 points), student facilities and welfare infrastructure (4 to 20 points), educational quality (4 to 20 points), geographical location of the university (3 to 15 points), labor market (3 to 15 points), and psychosocial

factors (4 to 20 points). To assess validity, the questionnaire was reviewed by ten experts in higher education, incorporating their feedback regarding face and content validity. After data collection, responses were entered into SPSS version 25 for analysis using descriptive statistics (mean, and standard deviation) and inferential statistics (Kolmogorov-Smirnov test, one-sample t-test, Mann-Whitney U test, and Friedman test).

Findings

To rank the factors influencing the choice of universities and majors with the most demand among different experimental groups in the National Entrance exams from 2018 to 2022, the Friedman test was employed. A comparison of the average ranks reveals that the highest average rank (4.53) is attributed to the factor of labor market, indicating that this is the most significant factor for students enrolled in sought-after majors/universities. Following this, the most important factors, in order, include university brand (4.32), geographical location of the university (4.09), educational quality (3.98), student facilities and welfare infrastructure (3.92) and psychosocial factors (3.88). Also, to rank the factors influencing the choice of universities and majors with the least demand among different experimental groups in the National Entrance exams from 2018 to 2022, the Friedman test was employed. A comparison of the average ranks reveals that the highest average rank (4.85) is attributed to the factor of labor market, indicating that this is the most significant factor for students enrolled in less sought-after majors/universities. Following this, the most important factors, in order, include geographical location of the university (4.35), student facilities and welfare infrastructure (4.12), psychosocial factors (3.97), university brand (3.85), and educational quality (3.74). To investigate whether there are significant differences between the factors influencing major/university selection across the five experimental groups in National Entrance exams from 2018 to 2022 among students enrolled in high-demand versus low-demand majors/universities, results from the Mann-Whitney U test indicated that the average ranks in both groups suggest that the factors of geographical location of the university, university brand, and educational quality are more influential in major/university selection for students in high-demand fields compared to those in low-demand fields ($p < 0.001$). Conversely, factors such as labor market and student facilities and welfare infrastructure are viewed as more influential by students in low-demand fields than by their counterparts in high-demand fields ($p < 0.001$).

Conclusion

The results of this study align with previous research findings. Based on the findings of this research, the following recommendations are proposed: Authorities should pay serious attention to students' choice of field of study before entering university, identifying influential factors and controlling those that negatively impact students' choices. It is advisable for individuals to consult guidance centers for necessary advice regarding field selection prior to making their choices. Given the research results, it is essential to revise the country's selection and educational programs to motivate students, as accepting students without scientific planning and consideration of talents and job market capacities can lead to feelings of frustration and demotivation among young graduates. Encourage candidates in national entrance exams through motivational mechanisms to select basic science fields, considering their vital role in the country's growth and development. However, it is important to acknowledge the limitations of this study that should be taken into consideration. This study was conducted cross-sectionally, making causal conclusions challenging. The research utilized questionnaires to gather data related to determining influential factors for high-demand and low-demand majors; thus, some individuals may have refrained from providing truthful responses. The use of convenience sampling may limit the generalizability of the results.

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