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A Study of Student Satisfaction, Academic Quality, Institutional Support, and Learning Experience as Determinants of Admission Decisions in Autonomous Engineering Colleges in Nashik

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Abstract

Technical education has become a cornerstone of workforce development in a time characterized by rapid technological innovation, automation, and digital transformation. As industries continue to evolve, the demand for engineers who possess not only technical expertise but also analytical thinking, leadership ability, and effective communication skills remains consistently high. For many students' completing higher secondary education, enrolling in an autonomous engineering college is considered a strategic step toward securing professional and career advancement opportunities.The present study aims to identify and analyse the principal factors that shape students' decisions to seek admission in autonomous engineering colleges located in Nashik. An exploratory Focus Group Discussion (FGD) was conducted to generate insights, resulting in the identification of twelve key influencing determinants. Based on these factors, a structured questionnaire was designed and refined through a pilot study to ensure reliability and validity. After eliminating incomplete submissions, a total of 1,500 fully completed responses were retained for detailed statistical analysis.The results of the study reveal that placement performance, institutional linkages with industry, and opportunities for skill enhancement play a decisive role in influencing admission preferences. The findings further indicate that institutions charging comparatively higher fees must justify the cost by delivering strong placement assistance, structured internship programs, and industry-relevant certification courses that enhance students perceived return on investment.The scope of this research is confined to autonomous engineering colleges within Nashik city. Future investigations may broaden the geographical coverage to assess whether student preferences and influencing factors differ across diverse regions and socio-economic settings in India.

Keywords: Autonomous Engineering Institutions, Student Choice, Admission Determinants, Technical Higher Education, Nashik

Introduction

Engineering education in India is changing quickly due to technological progress, automation, and the growth of the digital economy. The traditional structure of technical education is being influenced by the expansion of Massive Open Online Courses (MOOCs) and online certification programs. Learning platforms such as Coursera allow students to access specialized engineering courses offered by reputed universities across the world. As pointed out by Johnson (2012), these platforms promote open access and flexible participation, which has increased competition for conventional engineering colleges. In this changing scenario, autonomous engineering colleges in Nashik need to strengthen their academic and strategic approach to remain competitive. Nashik has gradually developed into an important educational center in Maharashtra, attracting students from urban, semi-urban, and rural areas. The autonomous status gives institutions greater freedom in curriculum design, introduction of new specializations, and collaboration with industries. However, this flexibility also brings responsibility to ensure that academic programs remain relevant, updated, and aligned with industry requirements.

Educational reforms introduced in regions such as Texas show that higher education systems worldwide are adapting to new technological and economic realities. Engineering colleges in Nashik must also respond to these changes by improving teaching methods, strengthening industry connections, and enhancing student employability. According to Stevens-Huffman (2006), institutions that understand student expectations and

preferences are better positioned to design effective programs and recruitment strategies.Students' decisions to seek admission in autonomous engineering colleges are influenced by several factors. These include academic reputation, placement performance, infrastructure facilities, faculty quality, accreditation status, fee structure, industry exposure, and expected career outcomes. In addition, family influence, financial background, and geographical convenience often play an important role, especially for students from semi-urban and rural communities.Identifying and understanding these influencing factors is essential for institutional development and long-term sustainability. Therefore, this study focuses on examining the key determinants that shape admission decisions in autonomous engineering colleges in Nashik, with the aim of providing practical insights for academic planning and strategic improvement.

Literature Review

Higher education plays a significant role in shaping an individual's professional trajectory, particularly in technical disciplines such as engineering. The demand for engineering education has expanded steadily due to rapid industrial development, technological advancement, and the growing need for skilled technical professionals (Singh & Sharma, 2020). While technological innovation continues to transform industries, the ability to apply technical knowledge effectively, solve real-world problems, and collaborate within multidisciplinary teams remains essential for long-term career success (Kumar & Rao, 2018).

In India, the expansion of engineering institutions—especially autonomous colleges—has provided students with a wide range of choices. Autonomous status allows institutions flexibility in curriculum design, assessment methods, and the introduction of emerging specializations. However, with increased options comes increased complexity in student decision-making. Admission choices are often influenced by a blend of academic quality, institutional reputation, economic considerations, and career prospects (Gupta & Verma, 2019).Among these factors, placement performance consistently emerges as one of the most decisive determinants in selecting an engineering college. Institutions that demonstrate strong industry collaborations, structured internship programs, and effective training and placement cells are generally preferred by students and parents (Bansal & Agarwal, 2021). Higher placement percentages and competitive salary packages enhance the perceived return on investment and significantly influence institutional preference (Sharma, 2022).

Students also carefully examine historical placement data, partnerships with reputed companies, alumni success stories, and the strength of industry interaction initiatives before finalizing admission (Joshi & Mehta, 2020). In the context of Nashik, which is developing as an educational hub in Maharashtra, autonomous engineering colleges must therefore focus on strengthening placement outcomes, industry linkages, and skill-development programs to remain competitive.Thus, understanding these key determinants is essential for institutional planning and strategic positioning. The present study aims to analyze the major factors influencing admission decisions in autonomous engineering colleges in Nashik, with particular emphasis on career-oriented determinants such as placements, industry exposure, and employability enhancement initiatives.

Objectives Of The Study

1. To identify the key determinants influencing students' admission decisions in autonomous engineering colleges in Nashik.
2. To examine the impact of tuition fees as a dependent variable in relation to other influencing factors such as placement performance, infrastructure, faculty quality, industry collaboration, and institutional reputation.
3. To provide practical and strategic recommendations for autonomous engineering colleges in Nashik to enhance academic quality, strengthen employability outcomes, and improve student enrollment.

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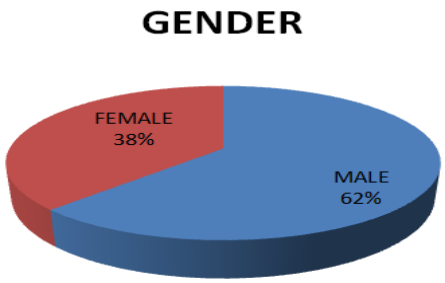
Research Methodology

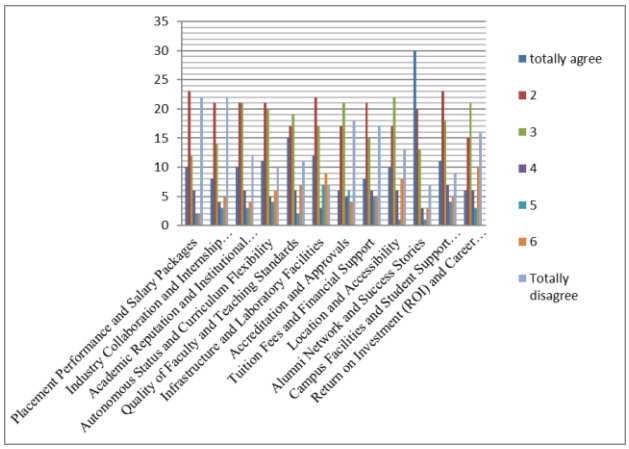
More than 2000 respondents were reached during the study; after removing the improperly filled responses we have analysed 1500 sample sizes. Final respondents consisted of 1500 students from Nashik who were admitted in autonomous engineering college. Data was collected through self-administered questionnaire on factors acquired from pretest. It is a descriptive study; Factor analysis was used to ultimately narrow the proposed factors to make the suggestions easier. A regression model was reported to identify the impact of the fees as a dependent variable on the data. All the analysis which is relevant is reported.

Data Analysis And Interpretation



930 were male respondents and 570 female respondents

HOW MUCH DO YOU AGREE WITH FOLLOWING STATEMENTS (RATE ON SCALE)



7 point scale questionnaire was prepared to map each factor, and the graphs above represent the simple bar representation of the question-wise analysis. A detailed table is on the next page.

Question / Statement	Totally Agree	2	3	4	5	6	Totally Disagree	N
Placement Performance and Salary Packages	200	460	240	120	40	40	40	1500
Industry Collaboration and Internship Opportunities	160	420	280	80	60	100	40	1500
Academic Reputation and Institutional Brand Image	200	420	420	120	60	80	200	1500

Autonomous Status and Curriculum Flexibility	220	420	400	100	80	120	160	1500
Quality of Faculty and Teaching Standards	300	340	380	120	40	140	180	1500
Infrastructure and Laboratory Facilities	240	440	340	60	140	180	100	1500
Accreditation and Approvals	120	340	420	100	120	80	320	1500
Tuition Fees and Financial Support	160	420	300	120	100	100	300	1500
Location and Accessibility	200	340	440	120	20	160	220	1500
Alumni Network and Success Stories	600	400	260	60	20	60	100	1500
Campus Facilities and Student Support Services	220	460	360	140	80	100	140	1500
Return on Investment (ROI) and Career Growth Prospects	120	300	420	120	60	200	280	1500

Tabular representation of the data is self-explanatory and need not be elaborated in words.

Communalities

	Initial	Extraction
Placement Performance and Salary Packages	1.000	.719
Industry Collaboration and Internship Opportunities	1.000	.849
Academic Reputation and Institutional Brand Image	1.000	.663
Autonomous Status and Curriculum Flexibility	1.000	.871
Quality of Faculty and Teaching Standards	1.000	.793
Infrastructure and Laboratory Facilities	1.000	.740
Accreditation and Approvals	1.000	.908
Tuition Fees and Financial Support	1.000	.891
Location and Accessibility	1.000	.848
Alumni Network and Success Stories	1.000	.881
Campus Facilities and Student Support Services	1.000	.788
Return on Investment (ROI) and Career Growth Prospects	1.000	.853

Extraction Method: Principal Component Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.898
Bartlett's Test of Sphericity	Approx. Chi-Square	1811.267
	df	66
	Sig.	.000

KMO 0.898 is quite acceptable and p-value is also significant as it is less than 0.001

All the communalities are significantly higher and which it is an indicator of the relevance of the factors.

81.702% of variance is explained by 3 factors.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.756	64.631	64.631	7.756	64.631	64.631	4.206	35.050	35.050
2	1.413	11.773	76.405	1.413	11.773	76.405	3.248	27.069	62.119
3	.636	5.298	81.702	.636	5.298	81.702	2.350	19.583	81.702
4	.584	4.865	86.567						

Rotated Component Matrix[a]

	Component		
	1	2	3
Placement Performance and Salary Packages	.909		
Industry Collaboration and Internship Opportunities	.888		
Academic Reputation and Institutional Brand Image	.813		
Autonomous Status and Curriculum Flexibility	.809		
Quality of Faculty and Teaching Standards	.681	.564	
Infrastructure and Laboratory Facilities		.872	
Accreditation and Approvals		.774	
Tuition Fees and Financial Support		.691	
Location and Accessibility		.677	
Alumni Network and Success Stories			.813
Campus Facilities and Student Support Services			.685
Return on Investment (ROI) and Career Growth Prospects			.526

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser

a. Rotation Converged in 7 iterations

Rotated component matrix gives a significant clarity of clubbing the various factors in 3. Placement Performance and Salary Packages, Industry Collaboration and Internship Opportunities, Academic Reputation and Institutional Brand Image, Autonomous Status and Curriculum Flexibility, Quality of Faculty and Teaching Standards are all factors which can be collectively factors which matter most to the students are clubbed together. Infrastructure and Laboratory Facilities, Accreditation and Approvals, Tuition Fees and Financial Support, Location and Accessibility are more outer factors which are clubbed together, data supports the output. Alumni Network and Success Stories, Campus Facilities and Student Support Services, Return on Investment (ROI) and Career Growth Prospects have heavy loadings for 3rd component which is connected as students' opinion.

Student Support Services & Return on Investment (ROI) and Career Growth are the most impactful factors as a management or a lay man so to find this both the factors were one by one used as a dependent variable to find the relative superiority to be the prime focus.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.876[a]	.768	.763	.955	.768	161.050	3	146	.000	2.197

a. Predictors: (Constant), COMPUTE ExtraBenefits=(Fees+CET+Batchmates)/3, COMPUTE CoreBenefits=(ExtraCurri+Interpersonal+Online+Placements+Events)/5, COMPUTE ComfortFacility=(Friend+Transport+Location+Green)/4

b. Dependent Variable: Fees

R-squared value is significant in both the cases, but it is more expressed when placement is the dependent variable, which clearly gives placement an edge over fees.

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Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.916[a]	.840	.837	.838	.840	255.160	3	146	.000	2.324

a. Predictors: (Constant), COMPUTE ExtraBenefits=(Fees+CET+Batchmates)/3, COMPUTE CoreBenefits=(ExtraCurri+Interpersonal+Online+Placements+Events)/5, COMPUTE ComfortFacility=(Friend+Transport+Location+Green)/4

b. Dependent Variable: Placements

Finding

R-squared value of 0.840, clearly takes an edge over the value which is achieved when fees is used as dependent variables. Also significant p-value suggests that fees cannot be avoided as far as rural students are concerned.

Rotated component matrix keeps fees totally separate from the placements factor, which is justified by the further analysis. Events, interpersonal training, extracurricular activities which leads to personality building are the ultimately supporting placements, which are commonly bought together by the analysis. More than 81% variance is explained by these 3 components which is an indication that other factors may not be that significant as far as the admissions are concerned.

Recommendations

Autonomous engineering colleges in Nashik should concentrate on the areas that matter most to prospective students—especially career outcomes. Since placement results strongly influence admission decisions, institutions need to strengthen structured training in technical skills, aptitude, communication, and interview preparation. Continuous interaction with industry professionals, live projects, and practical exposure will improve students' confidence and employability. While maintaining adequate laboratories, classrooms, and campus facilities is essential, excessive spending on cosmetic infrastructure upgrades may not significantly impact student choice in this region. Many students from Nashik and nearby areas prioritize job opportunities and skill development over luxurious amenities. Therefore, funds should be carefully directed toward initiatives that directly enhance learning quality and career readiness rather than non-essential physical expansion.

Hiring faculty members with both academic knowledge and practical industry experience can add meaningful value. Teachers who guide students in project work, innovation activities, and emerging technologies help bridge the gap between theory and practice. Additionally, dedicated trainers for soft skills, group discussions, aptitude, and technical interviews can improve placement performance and student satisfaction. Although reducing tuition fees may not be practical for institutions committed to retaining qualified faculty and maintaining standards, colleges can offer added value that offsets costs for students. Integrating placement training, certification programs, competitive exam guidance, and internship support within the academic framework can reduce the need for external coaching expenses. When students perceive that the institution supports their overall career preparation, they are more willing to accept the fee structure.

Conclusion

The higher education sector has become increasingly competitive, with reputed national and international institutions expanding their presence and influence. For autonomous engineering colleges in Nashik, this competitive environment presents both challenges and opportunities. Institutional success cannot rely only on reputation or physical infrastructure; instead, it depends on consistently meeting the expectations of students and parents, particularly in terms of academic quality and career outcomes. Although globally recognized universities and online education providers offer wide exposure and brand value, they may not always fully address the local academic context or the specific needs of students from semi-urban and rural backgrounds. Autonomous engineering colleges in Nashik are better positioned to understand regional aspirations, affordability concerns,

and employment priorities. By focusing on practical learning, industry-relevant curriculum, and structured placement support, these institutions can maintain strong relevance within their community.

The study highlights that students' admission decisions are largely influenced by tangible outcomes such as placement records, industry interaction, faculty expertise, infrastructure adequacy, and overall return on investment. Institutions that consistently strengthen these areas are more likely to attract and retain students, even in the presence of competition from larger or more established universities. Conclusion, the sustainability and growth of autonomous engineering colleges in Nashik depend on their ability to deliver value-driven education. By emphasizing employability, skill development, and student-cantered academic practices, these institutions can continue to remain competitive and contribute meaningfully to regional and national development.

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