

Factors Affecting Choice of Institutions: A Select Case of one of the Engineering Colleges in the State of Assam

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ABSTRACT

With the rise of the middle class population, India has seen a substantial transition as people have shifted towards private education for pursuing higher studies. As per AICTE Survey report 2015-16, 78 per cent of colleges in India are privately managed. The same report has also mentioned that the highest number of students are enrolled at Under Graduate level across India. Engineering and Technology is third major stream with 42.5 lakh students enrolled which means that technical education in India is contributing a major share to the overall education system in India. As the number of engineering colleges have vastly increased in India over the years, choosing the right college has become a major concern for the prospective students. The present study has been conducted amongst the students of Don Bosco College of Engineering and Technology, Guwahati situated in the State of Assam to identify the factors that they considered while choosing an engineering college. In order to draw meaningful inference from the study, factor analysis technique was used. Principle component analysis was the approach used in factor analysis which explains the variances in total given by the data. Varimax method is used for rotation in the study. It maximizes the numbers of variable with high loading on a factor, which enhances the interpretability of factors.

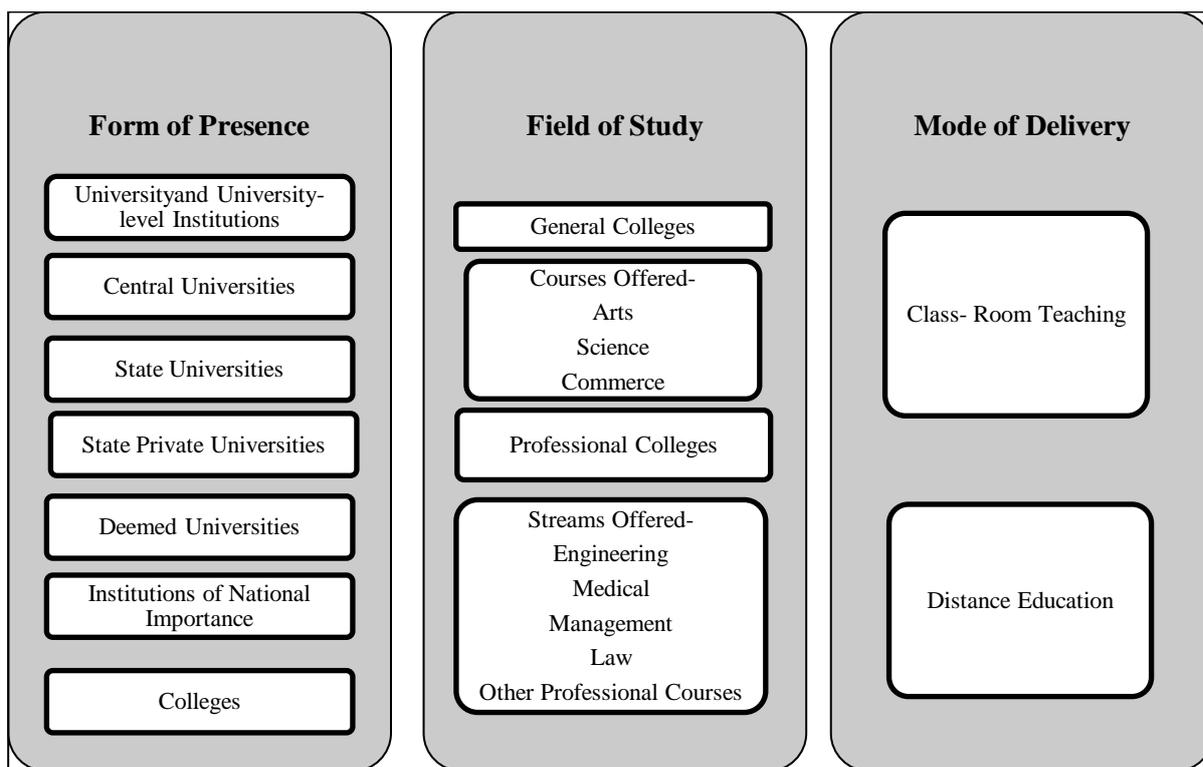
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INTRODUCTION:

Higher education in India is witnessing substantial transformation in the last few years. The system is in dire need to expand, as more than 600 million population is well under the age group of 25 years. The young population has a huge yearning for education and are also able to afford it. It has been anticipated that by 2020, India will have the largest population below the age group of 30 with second largest graduate talent globally after China.

Figure 1 shows the continuum of higher education landscape in India. Higher education in India is offered by five institutions which are categorized as: Central, State, Private, Deemed Universities and Institutions of National Importance. The institutions of national importance largely consist of the Indian Institutes of Technology, National Institutes of Technology and prominent medical colleges, including the All India Institute of Medical Science. There are 43 central universities, 312 state universities, 183 private universities and 115 deemed universities and 52 institutes of national importance in India as listed by the University Grants Commission. (Source: UGC Report, 2015-16).

Figure 1: Higher Education System Landscape. Source: FICCI, UGC



All the categories of universities are authorized to grant degrees. State universities can affiliate private as well as public colleges under them. Private colleges that offer professional courses and match specific needs of a sector or industry, are often affiliated to state universities. According to the data cited by UGC, there are nearly 9,195 such affiliated colleges in India. Private universities do not have the provision of affiliating colleges under them, but they also offer professional as well as regular courses in it.

To meet the needs of all, the Indian government is proposing huge expansion at all levels of education and would definitely transform the education sector altogether. However, it is bounded by numerous challenges such as issues of quality, access and equity, and unparalleled changes being taken place at various states. The overall model of education in India is low. Schools, colleges and universities do not have sufficient seats to meet the increasing demand. With the rise of the middle class population, India has seen a substantial transition as people have shifted towards private education for pursuing higher studies. The private sector is already playing a pivotal role in the growth and expansion of education in India, and its presence will continue to increase substantially. As per AICTE Survey report 2015-16, 78 per cent of colleges in India are privately managed. Among the major states, Andhra Pradesh and Telangana have more than 80 per cent private unaided colleges. The same report has also mentioned that the highest number of students are enrolled at Under Graduate level across India. Out of the total enrolment of 3,45,84,781 students, a vast majority of 2,74,20,450 students are enrolled in Under Graduate that is a sweeping 79.3%. As regards to programmes, Bachelor of Arts (B.A.) has 98.9 lakh students enrolled in it which is the highest enrolment. B.Tech has 21.8 lakh enrolled students and Bachelor of Engineering (B.E.) has 20 lakh students enrolled.

Engineering and Technology is third major stream with 42.5 lakh students enrolled which means that technical education in India is contributing a major share to the overall education system in India. Therefore, it can be witnessed that technical education has turned out to be a lucrative alternative among the students in contrast to that of conventional form of education. The reasons may be due to readiness in getting employment opportunities, scope of acquiring diversified specialized areas, availability of other choices for entering industries, more opportunities of growth as professionals etc. Engineering course helps a student in fulfilling all these factors and makes it a highly rewarding career. Therefore, as the number of engineering colleges have vastly increased in India over the years, choosing the right college has become a major concern for the prospective students.

Chapman (1986), in his paper had cited that college selection can be viewed as a process consisting of a string of interrelated stages, which are as follows: (1) pre-search process; (2) search process; (3) application process; (4) choice decision.

Pre-search process starts when a potential college student sets out to consider the likelihood of going to a college someday. Pre-Search criteria focuses mainly on either 'to go' or 'not go' decision.

Once the decision of going to a college is decided upon, the next stage focuses on gathering information about colleges, institutions, and/or universities. The sources of information can range from collecting admission brochures, visiting campuses, talking to current batch of students studying in those institutions, college websites, etc. Search process is normally tedious and time-consuming as it involves high element of decision-making.

The application process begins when the search process is finally over and the prospective students starts applying at the various colleges based on the search results.

The choice decision is the stage when he or she starts receiving admission notification and when the final choice is made. In this stage, the prospective student is believed to have complete information on all relevant colleges in his choice set.

The present study has been conducted amongst the students of Don Bosco College of Engineering and Technology, Guwahati situated in the State of Assam to identify the factors that they considered while choosing an engineering college. The students mostly belonged to 1st semester and 7th semester of their B.Tech programme. A total of 269 responses were collected through a close-ended questionnaire. The data obtained was analyzed using an open source software named PSPP. In order to draw meaningful inference from the study factor analysis technique was used. Principal component analysis used in factor analysis explains the variances in total given by the data.

LITERATURE REVIEW:

Significant work on choice of institutions have originated from the United States. Educational and career ambitions, socio-economic status, parental support, college aspects and financial constraints are all instrumental factors to choose a college. (Nora & Cabrera, 1992). Another study indicates the factors influencing college choice in the 1990s remain similar to those identified in a similar study conducted in 1965, which highlighted four main factors influencing students' choice namely; intellectual emphasis, suitability, guidance from others and social emphasis (Kinzie et al., 2004). Mutekwe, Maropeng and Maphosa in their paper on career choices categorized different factors like teacher approaches, parental beliefs and expectations, and the influence of peers as well as the course combinations that have tremendous impact on students' career trajectories. Burns in his thesis studied the factors affecting the choice criteria of African- American students at the University of Missouri, Columbia. His choice model constituted of student qualities like individual motivational level, aspiration to do better, rewards, influence of peers and parents, College attributes, financial constraints, ease of location, campus placements. Shammot, in his study on Jordanian students described the role of the marketing and promotion in influencing the choice for a private university. He put forward that the most important factor that shaped the choice of a student was the cost involved in pursuing a course, while the least important factor was parents' pressure.

Moogan & Baron, 2003 indicates that institutional choice is rational, which is influenced by multiple factors like cost, information, location, rapport, experiences. Joseph Kee Ming Sia (2013) added to this list other factors like courses offered at the institution, institutional accreditations, location, quality of education as the common factors considered by students in making an institutional choice. Chapman D (1981), Litten L.H (1982) revealed that ability, campus visits, trend of admissions in the previous years, recruitment activities of the institutions and accessibility to reaching out to prospective students through various ways of disseminating information were some variables affecting the choice of colleges. Farhan Mehboob et al (2012) disclosed very clearly that cost and infrastructure facilities to be the prime factors affecting the college choice. Martin, 1994 identified that status is an important criteria, but he added that career progression, specific courses, quality of research, library resources, location were also having a strong strategic influence on the choice of an institution.

RATIONALE OF THE STUDY:

Theoretically, many models of consumer choice behavior have tried to develop models that highlights purchasing behavior and the consumer decision-making process. Such models propose that consumers make choices and judgments after going through a series of stages, and it is applicable to all consumer decisions, that also includes educational choices (Myers, 1996). Previous models in terms of studying consumer choice are all based on past behavior and do not predict choices for new offerings. This study aims to determine the need for a more focused educational marketing that has to be designed keeping in view the complexity of the choice process and the effect of poor choice on the educational institutions.

Developing a theoretical model of institutional choice would provide institutions of all levels with the market intelligence to improve their portfolios and stature, and would further enable them to benchmark themselves

with other institutions.

We know that potential students today consider a number of factors in a variety of different ways to come to a decision (Moogan & Baron, 2003). The choice decision becomes far more complex as the number of educational institutions are growing in numbers. These colleges significantly differ in terms of infrastructural facilities, reputation, location, placement records, career opportunities, quality of education etc. (Foskett & Hemsley-Brown, 2001). Evaluating these factors for students is not easy, even if they have sufficient information to justify their choices. Therefore, if institutions can envisage where aspirants would come from and what they would value the most, they can accordingly focus on marketing those areas that will give them the highest return.

Poor choice of selecting the appropriate college can result in student dissatisfaction and may impact negatively on academic success, thereby disturbing the progression rates (Ozga & Sukhnanandan, 1997). Low student retention rates would force an institution to work in terms of protecting their academic reputation. This demonstrates the need for developing a more widespread understanding of the choice process to ascertain a 'quality fit' between student and institution/course.

OBJECTIVES OF THE STUDY:

Based on the rationale, present study would aim at fulfilling the following objectives:

- To identify the factors that affects the choice decision of students while opting for an engineering college.
- To identify factors that students value the most while looking for an engineering college.
- To gauge the satisfaction level of students on various parameters subsequent to the choice decision.

METHODOLOGY:

The study was conducted amongst the students of Don Bosco College of Engineering and Technology, Guwahati, Assam during the period of November-December 2017. All the respondents belonged to B.Tech Programme of 7th semester and 1st semester. To identify the major influencing factors affecting student choice of an institution, a close-ended questionnaire was designed. A total of 269 responses were gathered for the study. Table-1 shows a total of 10 different variables used in the administered questionnaire to identify the choice variables. Each item in the questionnaire was prepared in Likert scale constituting five points with 1 being the least important and 5 being highly important. The points were distributed on the basis of respondent's strong agreement to strong disagreement over an issue. Respondents were then asked to rate the items on their best possible choice.

Table 1: Variables Identified for Choice Criterion

SI No.	Variables
1	Fees
2	Infrastructure of the College
3	Location
4	Brand
5	Quality of Education
6	Availability of Hostels/Paying Guests
7	Perception Amongst Neighbors
8	Placements
9	Future Career Opportunities
10	Quality of Life as Student

The Data obtained was then analyzed using an open source software named PSPP. In order to draw meaningful inference from the study, factor analysis technique was used. Factor analysis is used for data reduction so as to identify most important factors which have significance in the study. Principle component analysis was the approach used in factor analysis which explains the variances in total given by the data. It determines the factors which aggregate different items showing maximum accumulated variance in the data. Varimax method is used for rotation in the study. It maximizes the numbers of variable with high loading on a factor, which enhances the interpretability of factors.

Further, to gauge the satisfaction levels amongst the students of Don Bosco College of Engineering and Technology, Guwahati, a satisfaction survey was also carried out amongst the students of B.Tech 7th semester.

A total of 166 responses were gathered for this purpose. The following questions were asked in the form of a Likert Scale Questionnaire, with 1 being highly dissatisfied and 5 being highly satisfied. Following were the variables identified for this purpose.

Table 2: Variables identified to measure satisfaction level among students

Sl No.	Variables
1	Infrastructure of the College
2	Quality of Education
3	Placements
4	Future Career Prospects and Opportunities
5	Quality of Life as Student

ANALYSIS AND INTERPRETATION:

Choice Criterion Analysis:

Reliability test: Before applying factor analysis reliability test was conducted on the variables by the means of Cronbach’s alpha. The overall value of Cronbach’s alpha for 10 different items was found to be 0.89 which suggests the data is reliable for analysis. Hence factor analysis can be applied by the researcher in the next step.

Table 3: Total Variance of Factors

Com- -onent	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.05	50.55	50.55	5.05	50.55	50.55	3.33	33.33	33.33
2	1.11	11.07	61.62	1.11	11.07	61.62	2.83	28.28	61.62
3	.81	8.09	69.71						
4	.78	7.80	77.51						
5	.60	5.98	83.49						
6	.46	4.58	88.07						
7	.38	3.82	91.88						
8	.33	3.30	95.18						
9	.32	3.22	98.40						
10	.16	1.60	100.00						

Factor analysis was applied to all the 10 variables taken for the study. Table 3 explains that only 2 components have Eigen values more than 1. These two components explains 61.62% of the variance. Hence only these two components are taken for further study.

Table 4: Component Matrix

	Component	
	1	2
Fees	.5	.43
Infrastructure of College	.76	.23
Location	.71	.19
Brand	.72	.25
Quality of Education	.81	-.21
Hostel Availability	.63	.12
Perception of Neighbors	.55	.5
Placements	.74	-.48
Future Career Opportunities	.8	-.42
Quality of Student Life	.81	-.24

Table 5: Rotated Component Matrix

	Component	
	1	2
Fees	.09	.65
Infrastructure of College	.42	.67
Location	.41	.62
Brand	.37	.66
Quality of Education	.75	.38
Hostel Availability	.40	.51
Perception of Neighbors	.09	.74
Placements	.87	.13
Future Career Opportunities	.88	.21
Quality of Student Life	.77	.35

Table 6: Component Extraction

Components	% of Variance	Variable included in the factor	Loading
1	33.33	Quality of Education	.75
		Placements	.87
		Future Career Opportunities	.88
		Quality of Student Life	.77
2	28.28	Fees	.65
		Infrastructure of College	.67
		Location	.62
		Brand	.66
		Hostel Availability	.51
		Perception of Neighbors	.74

Table 6 shows the Component extraction, which was prepared on the basis of rotated component matrix (shown in table 5). The table shows the two components 1 and 2 which had Eigen Values more than 1 in factor analysis done previously. Each Component constitutes of items which have Eigen value more than 0.5 in the Rotated Component matrix table 5. The Components are in order of percentage of variance explained by the collective items taken together. It can be observed that Quality of Education, Placements, Future Career Opportunities and Quality of Student life are the most important factors considered by the students and their parents while choosing an Engineering college. Whereas factors like Availability of Hostels and PG is the least important factor considered while choosing a college.

Satisfaction Survey Analysis:

To measure the satisfaction levels of students, five variables were identified and were rated by the students based on a 5-level Likert Scale. The total number of respondents for this field of study were 166. There were a total of 830 responses across the five parameters. Total number of responses corresponding to Highly Dis-satisfied(1), Dis-satisfied(2), Neutral(3), Satisfied(4) and Highly Satisfied(5) was segregated, and corresponding weights in increasing magnitude was assigned as shown in the following table 7.

Table 7: Assignment of weights corresponding to the Likert Scale

	Weight Assigned
Highly Dis-satisfied(1)	0.08
Dis-satisfied(2)	0.12
Neutral(3)	0.2
Satisfied(4)	0.25
Highly Satisfied(5)	0.35

Table 8: Segregation of responses to the Satisfaction Survey

	Total No of Response	Highly Dissatisfied (1)	Dissatisfied (2)	Neutral (3)	Satisfied (4)	Highly Satisfied (5)	Weighted Mean
Weights Assigned		0.08	0.12	0.2	0.25	0.35	
Base	830	168	231	249	145	37	0.169
Infrastructure	166	23	50	60	26	7	0.173
Quality of Education	166	18	30	58	50	10	0.197
Placements	166	64	48	39	12	3	0.137
Future career prospects	166	37	56	41	29	3	0.158
Quality of Life as students	166	26	47	51	28	14	0.180

It can be seen from table 8 that since the weighted mean of factors like placements and future career prospects are lower than the base weighted mean, it can be inferred that all the students as a whole are relatively not satisfied with these aspects of the college, while they appreciate the quality of education imparted by the college, quality of life as students and the infrastructural facilities provided to them.

In order to have a thorough understanding of the behavior, expectations and hence satisfaction levels of the students, the data was further classified on the basis of Geography. Students from Assam were considered as one group (Size = 98) and students belonging to Shillong, Meghalaya other than Shillong and Nagaland were considered as one group (Size = 54) and the same analysis was repeated.

Table 9: Responses of Students from Assam to the satisfaction Survey

	Total No of Response	Highly Dissatisfied (1)	Dissatisfied (2)	Neutral (3)	Satisfied (4)	Highly Satisfied (5)	Weighted Mean
Weights Assigned		0.08	0.12	0.2	0.25	0.35	
Base	490	123	159	120	68	20	0.157
Infrastructure	98	16	29	33	16	4	0.171
Quality of Education	98	12	22	32	24	8	0.192
Placements	98	46	31	15	5	1	0.122
Future career prospects	98	28	41	17	11	1	0.139
Quality of Life as students	98	21	36	23	12	6	0.160

Table 10: Responses of Students from Shillong, Meghalaya Other than Shillong & Nagaland to the satisfaction Survey

	Total No of Response	Highly Dissatisfied (1)	Dissatisfied (2)	Neutrl (3)	Satisfid (4)	Highly Satisfid (5)	Weighted Mean
Weights Assigned		0.08	0.12	0.2	0.25	0.35	
Base	270	26	53	110	65	16	0.194
Infrastructure	54	4	14	24	9	3	0.187
Quality of Education	54	5	5	21	22	1	0.205
Placements	54	8	16	22	6	2	0.170
Future Career prospects	54	6	8	21	17	2	0.196
Quality of Life as students	54	3	10	22	11	8	0.211

From table 9 and 10, we can infer that the satisfaction levels of students from Assam with respect to Placements, Future career Prospects and Quality of Life as Students weigh lower than the average while the satisfaction levels of students from Meghalaya and Nagaland are above Average.

Further, it can also be inferred that the satisfaction level of students of Assam is much lower for factors such as placements and future career prospects than that of the students of Shillong, Meghalaya other than Shillong and Nagaland.

FINDINGS OF THE STUDY:

The findings of the study can be summarized below:

- Quality of Education, Placements, Future Career Opportunities and Quality of Student life are the most important factors considered by the students and their parents while choosing an Engineering college.
- Factors like Availability of Hostels and PG is the least important factor considered while choosing a college.
- All the students as a whole are relatively not satisfied with certain aspects of the college like Placements and Future Career Prospects, while they appreciate the Quality of Education imparted by the college, Quality of Life as Students and the Infrastructural Facilities provided to them.
- The overall satisfaction levels of students of Shillong, Meghalaya other than Shillong and Nagaland is higher for all aspects of the college than that of the students of Assam.
- The satisfaction level of students of Assam is much lower for factors such as placements and future career prospects than that of the students of Shillong, Meghalaya other than Shillong and Nagaland.

DISCUSSION AND CONCLUSION:

The findings of the study furnish some useful information to engineering education about choice factors considered by students in selecting an institution. This would enable the institutions to manage their limited resources more diligently to attract the right kind of students, to create a unique positioning, and to fragment the student market based on their preferences.

Most students do not have vast academic experience, hence choice decisions are mostly based on a combination of word-of-mouth, opinions and status. To help the students in taking better decisions, the institutions should focus on 'quality of information' and 'advice' provided during counseling sessions.

This would ensure a better bonding between student and institution/course.

This study suggests that comprehending students' choice would provide a clear picture to the institutions in improving their portfolios and stature, facilitate in taking better marketing decisions, and streamline the choice process for students. This work also signals the importance of constant assessment in the area of student choice. Such assessments can be used in improving institutional reputation, and help in identifying change in choice variables of students.

REFERENCES:

- B.K. Moorthy, P. S. (2014). *Impact of Choice Factors on Selection of Engineering Institution in India*. International Journal of Application or Innovation in Engineering & Management, 28-35.
- Briggs, S. (2013). *An exploratory study of the factors influencing undergraduate student choice: the case of higher education in Scotland*. Studies in Higher Education, 14-20.
- Burns, J. (2006). *Factors influencing the college choice of African-American students admitted to the college of Agriculture, Food and Natural resources*. Columbia: Master of Thesis, University of Missouri.
- Farhan Mehboob, Syed Mir Muhammad Shah and Niaz A Bhutto (2012). *Interdisciplinary Journal of Contemporary Research in Business*. September 2012, Vol 4, No 5.
- Foskett, N. H. & Hemsley-Brown, J. V. (2001). *Choosing futures: young people's decision-making in education, training and careers markets*. (London, Routledge Falmer).
- Joseph Kee Ming Sia (2013). *University Choice: Implications for Marketing and Positioning Education*. 3(1): 7-14 DOI: 10.5923/j.edu.20130301.02.
- Litten, H. (1982). *Different stroke in the application pool: Some refinements in a model of student college choice*. The Journal of Higher Education, 53(4): 383-402.
- M.E. Wajeed, T. M. (1997). *Factors Influencing Students' College Choice at Traditional and Metropolitan Universities*. 37th Annual Forum of the Association for Institutional Research. Florida.
- Moogan, Y. J. & Baron, S. (2003). *An analysis of student characteristics within the student decision making*

- process*. Journal of Further and Higher Education, 27(3), 271–287.
- Mutekwe E., M. M. (2011). *Factors Affecting Female Students' Career Choices and Aspirations: A Zimbabwean Example*. Journal of Social Science, 133-141.
- Myers, S. K. (1996). *Information search in higher education choice*. Available online at: <http://www.marketinged.com/library/newsltr/1303mhe.txt> (accessed 5 April 2005).
- Nora, A. & Cabrera, A. F. (1992). *Measuring program outcomes: what impacts are important to assess and what impacts are possible to measure?* (Washington, DC, Office of Policy and Planning, US Department of Education).
- Pushkar Dubey, S. K. (2013). *Factors affecting choice of Engineering Colleges in Odisha, India*. Research Journal of Management Sciences, 14-20.
- Shammot, M. (2011). *Factors Affecting the Jordanian Students' Selection Decision among Private Universities*. Journal of Business Studies, 57-63.
- (2014). *Understanding India: The future of higher education and opportunities for international cooperation*. New Delhi: British Council.
- (2015). *Understanding the Status of Higher Education in India: Challenges and Scepticism towards Serious Investments in the Sector*. New Delhi: Centre for Public Policy Research.
