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Identify the impact of different parameters on National Institutional Ranking Framework (NIRF) score in the top 50 ranking management institutes in India

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Abstract

The present study identifies the relationship and impact between the National Institutional Ranking Framework (NIRF) Score in the top 50 management institutes and their different parameters like the number of student placement; research publication score and the amount used in the library development. Correlation and Simple Regression Analysis techniques are used for the data of analysis. In the year 2018-19, we found that significant positive impact of research publication score and the amount used in the library development on the NIRF Score in the top 50 management institutes. We also found a positive relationship between the NIRF Score and the number of student placement in sample institutes but not statistically significant.

Keyword: NIRF; India Ranking; Student Placements; Management institutes; Research Publication Score

Introduction

In this competitive environment, there are some essential factors for the overall development of the students. And, these factors are directly correlated with institute services and facilities, which a candidate uses for his overall improvement. At the time of placement selection, a candidate should possess some essential skills such as communications, problem-solving, research analysis and experimental, accountability, educational awareness etc. For the development of any student's skills and knowledge, it is must use of the library, laboratory, and other types of devices that have been related to education. The quality of any institute is not only the dependence on the teaching staff but the above mentioned factors are also of similar importance. When these are all factors working correctly, it helps a candidate to improve his overall knowledge as an aspect of research and also helps to take a placement at a suitable place.

The National Institutional Ranking Framework (NIRF) is a framework that was established by the Ministry of Human Resource Development (MHRD) in 2015. The NIRF is a methodology for ranking of Indian universities and colleges. This Framework uses several parameters for ranking systems like Teaching, Research, Graduation Outcomes, Outreach and Peer Perception. These parameters have been classified into some clusters, and these clusters were consigned to certain weightages. In this paper, we have tried to identify the impact and relationship between the NIRF ranking and the above-mentioned factors.

Objectives

- To identify the impact and relationship of student placements on NIRF Score;
- To analyse the impact and relationship between Research Publication Score and NIRF Score; and
- To examine the impact and relationship between the amount used in library development and NIRF Score.

Literature review

(Ahirwar et al., 2019) this study shows the role of the libraries and defines the role of librarians and their service in improving institutional NIRF ranking. Academic libraries primarily work to develop learning, teaching, research, and community progress initiatives. Besides, library professionals support the user to improve research and teaching qualities with the help of many tools and techniques. The regular library with the most selective services can provide many more contributions to the NIRF ranking for the institution[1]. (Shenoy & Aithal, 2017) examined the impact of placement in the institutes on this study. In this paper, the author identified the placement strategy grid and summarized the nature of the 14 placement

strategy grid. Furthermore, a SIPOC (Suppliers, Inputs, Process, Output, Customers) exercise was conducted to determine the outcomes for finding the impact on strategy identified. This study found that NIRF top-ranked management institutions devised the master strategy discussed in the above SIPOC helped students in their career enrichment and progression as an expected outcome[4].

(Chugh et al., 2016) discussed the research publications and their qualities on the NIRF ranking system. Research, Professional Practice, and Collaborative Performance (PRC) is one of the critical parameters analysed by the NIRF system for the ranking. PRC score depends on the quality of the research publication. In this research, two case studies have been developed and analysed to highlight the importance of quality publications. a) Research Publications Metrics, and b) Calculation of Research publications (PU) metrics. The outcomes of this study are the publications listed in Scopus and Web of Science are the main priority, so it is required to provide quality research publications of every institute for the best place in the ranking[3]. (Bankar et al., 2016) described research on the ranking and performance of 300 different Indian institutes. The nature of institutes involves Engineering, Management, Pharmacy, and Universities. To satisfy the objectives of the research hypothesis were constructed and examined with the help of a two way Anova test. As per the authors, NIRF is an excellent initiative taken by the Indian government for institutes. It helps to improve quality and standards and also compete with the global education system. This study indicates the performance of the top universities, technical institutes, and their area of improvemen[t2].

Hypothesis of the study

- H01 There is no significant relationship between number of student placements and NIRF Score.
- H02 There is no significant relationship between research publication score and NIRF Score.
- H03 There is no significant relationship between the amount used in library development and NIRF Score.

Research methodology

To find the impact of different parameters on NIRF Score ranking, top 50 management institutes have been selected for the study. The present study is based on secondary data and it have been collected from the NIRF portal in 2018-19. The nature of data is belonging, the number of student placement; research publication score and the amount used in library development. To test the relationship and impact between the dependent variable (NIRF Score) and independent variables (number of student placement; research publication score and the amount used in library development), correlation and simple regression analysis

used for the data analysis. For the data analysis, Statistical Package for the Social Sciences 21 (SPSS 21) software used.

Regression Model:

We test the relationship and impact between NIRF Score and different parameters by estimating the following regression equation:

$$NIRF\ Score_i = \alpha_i + \beta_1 NSP_i + \beta_2 RPS_i + \beta_3 AULD_i + e_i$$

Whereas,

α_i is constant and $\beta_1, \beta_2 \& \beta_3$ are the coefficient of respective independent variables **NSP, RPS,** and **AULD.**

e_i represents error.

The variables in the regression model is defined as follows:

- NIRF Score is a total score of an institution in NIRF ranking.
- NSP is the number of students placed in an institution.
- RPS is the research publication score of an institute.
- AULD is the amount used in library development of an institution.

Empirical Result and Finding:

Table 1: Descriptive Statistics of Variables

Variables	Mean	Minimum	Maximum	Std.Dev.
NIRF Score	56.97	46.51	82.75	9.77
NSP	266.56	25	927	189
RPS	30.84	3.15	75.17	18.21
AULD	19962229.40	66922	87750110	22839678.11

Table 1 shows the descriptive statistics of the variables for the period 2018-19. The dependent variable NIRF score indicates a minimum score of 46.51 to a maximum of 82.75 with mean value of 56.97 indicating an average score of NIRF ranking institutes. It is evident that there is a large variation in the volume of score at the sample institutes and their expenditure amounts and facilities. The mean value of variables, numbers of student placements, research publication score, and the amount used in library development indicates dynamic variation between sample institutes.

Table 2: Correlation of the variables entered in the regression analysis

Correlation	NIRF Score	NSP	RPS	AULD
NIRF Score	1			
NSP	.110	1		
RPS	.787**	-.036	1	
AULD	.693**	.224	.330*	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 2 indicates the correlation matrix between the variables used in the study. The analysis of the correlation between dependent and independent variables is a prerequisite requirement before analyzing the impact between them. The correlation coefficient measures the strength and direction of linear relationship between two variables. The result of Pearson correlation analysis indicates that the score of NIRF ranking institutes is positively correlated with numbers of student placements, research publication score, and amount used in library development. The value of correlation coefficient of research publication score, and the amount used in library development respectively 0.787 and 0.693 indicates strong correlation with NIRF Score of sample institutes. The value of correlation coefficient documented in Table 2 of independent variables research publication score and amount used in library development have a statistically significant relationship with the dependent variable respectively at 5% level of significance.

Based on the outputs of correlation analysis, regression analysis is applied to study the impact of independent variables on dependent variables as documented in table 3.

Regression Result:

Table 3: Output of Regression Analysis

Variable	Unstandardized Coefficients Beta	Std. Error	Standardized Coefficients Beta	t-Stat.	p-value
Constant	42.108	1.452		29.003	.000
NSP	.001	.003	.025	.394	.695
RPS	.338	.035	.630	9.748	.000
AULD	2.057	.000	.480	7.253	.000
R-Squared	.831				
Adjusted R-Squared	.820				
F-statistic	75.610				

Table 3 shows the result of simple regression analysis to test the impact and relationship between dependent and independent variables. The value of F- statistics is 75.610 with p-value = 0.000, indicating a high level of correlation between the dependent variable and independent variable, and the estimated model is statistically significant. The value of R square is .831, which indicates that 83.1% of the variance of NIRF Score is explained by numbers of student placements, research publication score, and amount used in library development under simple regression test. The result also indicated that individual coefficients of research publication score and amount used in library development respectively .630 and .480 with p-value .00 have found a positive impact on NIRF Score in sample institute. The p-value of .000 of research publication score and amount used in library development indicates that statistically significant at 5% level of significance. Hence null hypothesis H02 and H03 is rejected. The coefficient value of number student placement is 0.025 shows a positive relationship with NIRF score but not statistically significant (P-value=0695); hence null hypothesis H01 is accepted.

Conclusion

This study analysed the relationship and impact of different parameters like numbers of student placements, research publication score, and amount used in library development with NIRF Score in NIRF ranking. The present study is based on the top 50 NIRF ranking in management institutes and their ranking parameters in 2018-19. The result asserts that positive correlation between numbers of student placements, research

publication score, and amount used in library development with NIRF Score in NIRF ranking. We also found that positive impact of research publication score, and the amount used in library development on NIRF Score.

Limitation of the study

The present study is based on only the top 50 rankings of management institutes in NIRF ranking score in 2018-19. Only three parameters: numbers of student placements, research publication score, and amount used in library development used to find the relationship and impact with NIRF Score in sample institutes.

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