DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN BANGLADESH: AN EMPIRICAL ANALYSIS

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Abstract

Foreign direct investment (FDI) plays an important role for attaining sustained growth of a nation including Bangladesh. The key objective of the research is to assess the effect of foreign direct investment (FDI) on different macroeconomic factors (GDP, interest rate, inflation rate, growth rate, average exchange rate, external debt and balance of trade). For this, multiple regression analysis model is utilized for analyzing different macroeconomic factors. Based on the analysis, it is observed that GDP, interest rate, inflation rate and balance of trade are negatively associated factors with foreign direct investment (FDI) and growth rate, average exchange rate and external debt are positively associated factors with foreign direct investment (FDI). These macroeconomic factors are important indicators for the economic development of a country.

Keywords: FDI, GDP, Macroeconomic factors, Sustained growth, Economic development.

INTRODUCTION

Foreign direct investment (FDI) is fundamental funding manufactured by an enterprise into an external concern. Foreign direct investment (FDI) is essentially needed for the economic development of any country especially for developing country like Bangladesh. Bangladesh requires economic evolution to get through the world. Bangladesh is impotent to accumulate national savings to saturate in attractive projects as it is capital poor country.

Foreign direct investment (FDI) is the pivotal factors for the development of country's economy. For the developing countries like Bangladesh, foreign direct investment (FDI) contributes at large. It assists to amalgamate the national economy with international economy. Bangladesh has a numerous opportunities to captivate the foreign stakeholders from different developed and developing countries. In this case, foreign direct investment (FDI) is considered to be most potential factor for economic growth.

1.1. STATEMENT OF THE PROBLEM

Bangladesh is a capital poor but potential country. Foreign direct investment (FDI) is crucial for attaining the country's socio-economic development. There are many macroeconomic factors that affect foreign direct investment (FDI). That's why, the researchers are aimed to realize the influence of different macroeconomic factors on foreign direct investment (FDI).

2. OBJECTIVE OF THE RESEARCH

The major objectives of this research as follows:

 i.   To observe the pattern of different macroeconomic variables over foreign direct investment.
 ii. To measure the effect of different macroeconomic variables over foreign direct investment.

3. REVIEW OF LITERATURE

Saini & Singhania (2018) investigated that GDP, income, trade openness, inflation, exchange rate and external indebtedness are associated factors of FDI. *Asiamah et al. (2019)* found that inflation rate, interest rate and exchange rate are negatively associated factors with FDI and GDP, electricity production and telephone usage are positively associated factors with FDI.

Kaur & Sharma (2013) analyzed that inflation and exchange rate are negatively associated on FDI and GDP, forex reserves, openness and external indebtedness are positively associated on FDI. Reenu& Sharma (2015) studied that market size, trade openness, inflation rate and interest rate have impact on FDI.

Kandiero & Chitiga (2014) found that FDI inflows and real exchange rate are negatively correlated. Stanic & Racic (2019) analyzed that FDI, import, export have positive association and growth rate, unemployment rate and inflation rate have negative association with GDP. Rahman (2015) explored that GDP, inflation rate are positively related with FDI and balance of trade is negatively related with FDI.

Maryam & Mittal (2020) studied that economic growth has positive impact on FDI. Alfalih described that exchange rate has significantly positive association with FDI. Lily *et al.* (2014) found that exchange rate has negative association with FDI.

4. METHODOLOGY

4.1. DATA SOURCE

The researchers used secondary data related to this study and data was collected from World Bank for the fiscal year 2010 to 2020.

4.2. DATA ANALYSIS TECHNIQUES

The secondary data has been analyzed in SPSS 16.00 version and descriptive statistics and multiple linear regression was used to analyze the macroeconomic factors.

4.3. DEPENDENT VARIABLE

Foreign direct investment (FDI) was used as dependent variable for this study.

4.4. INDEPENDENT VARIABLE

GDP, interest rate, inflation rate, growth rate, average exchange rate, external debt and balance of trade were used as independent variables.

4.5. MULTIPLE LINEAR REGRESSION

The multiple linear regression model is applied to determine the relationship between a dependent variable and one or more independent variables. The general form of the regression model is:

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \ldots + \beta_k x_k \qquad (1)$$

Where y the dependent is variable, β_0 is the intercept, x_1 to x_k are the independent variables, β_1 to β_k is the change in y for each one increment change in the independent variables, and ε is the disturbances.

Therefore, the ordinary least square fitted model from (1) is given by

$$\hat{y} = \hat{\beta}_0 + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \hat{\beta}_3 x_3 + \cdots + \hat{\beta}_k x_k$$

$\hat{y}$ is the predicted value of the dependent variable y, $\hat{\beta}_0$ is the intercept, x_1 to x_k are the independent variables, $\hat{\beta}_1$ to $\hat{\beta}_k$ is the estimated value of β_1 to β_k.

Since the variables are measured in different units, so we used standardized partial regression coefficients which is measured by

$$\hat{\beta}_k = \frac{s_k}{s_y}$$

Where, s_k is the standard deviation of the k'th independent variable and s_y is the standard deviation of the dependent variable.

5. RESULTS AND DISCUSSION

There are numerous macroeconomic variables that affect foreign direct investment (FDI). Here, we used some selected variables which are given in the following table.

Table 1
Some macroeconomic factors of Bangladesh economy

Fiscal Year	FDI (USD Billion)	GDP (USD Billion)	Interest Rate (%)	Inflation Rate (%)	Growth Rate(%)	Exchange Rate (%)	External Debt (USD Billion)	Balance of Trade(USD Billion)
2010	1.23	115.30	4.73	8.13	11.23	56.31	20.34	-6.63
2011	1.26	128.60	5.06	11.4	10.32	74.10	22.1	-9.75
2012	1.58	133.40	5.34	6.22	2.48	81.86	22.10	-10.39
2013	2.60	150.00	5.98	7.53	11.18	78.10	22.40	-10.83
2014	2.54	172.90	6.88	6.99	13.95	77.56	24.40	-11.30
2015	2.83	195.10	5.51	6.19	11.58	77.80	23.90	-14.46
2016	2.33	221.40	3.44	5.51	12.26	78.53	26.31	-10.31
2017	1.81	249.70	3.06	5.70	11.57	81.18	28.34	-13.06
2018	2.42	274.00	3.83	5.54	8.59	83.87	33.51	-23.69
2019	1.91	302.60	4.87	5.59	9.28	84.39	38.48	-18.50
2020	2.56	324.20	2.63	5.69	6.09	84.87	44.20	-20.76

Data source: World Bank

5.1: GRAPHICAL ANALYSIS

Figure 1: Scatter plot of interest rate, inflation rate, growth rate and exchange rate with FDI
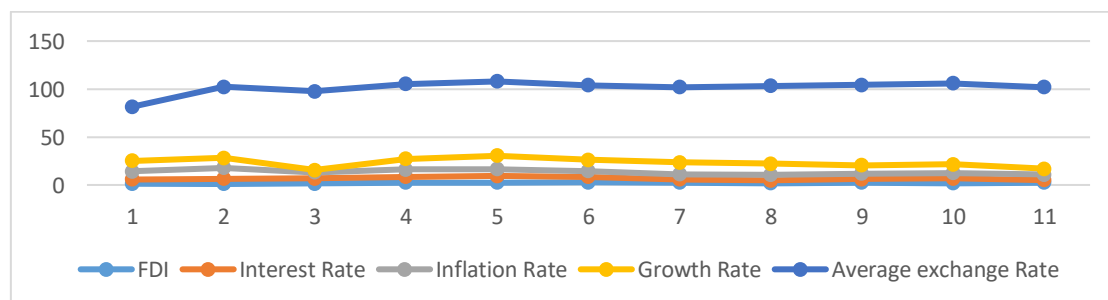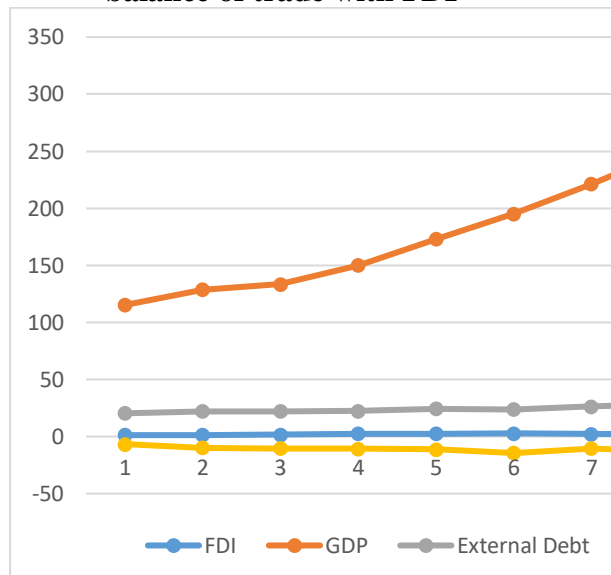

Source: Authors calculation from collected data

From the figure 1, it is observed that interest rate, inflation rate, growth rate and exchange rate are gradually decreased as year passes with FDI.

Figure 2
Scatter plot of GDP, external debt and balance of trade with FDI

Source: Authors calculation from collected data

From the figure 2, it is seen that GDP and external debt are gradually increased with FDI and balance of trade is gradually decreased with FDI.

5.2: CORRELATION ANALYSIS

Table 2
Correlation among different macroeconomic factors with FDI

Factors	Pearson r	P value
GDP	0.43	0.18
Interest Rate	0.06	0.86
Inflation rate	-0.54	0.09
Growth Rate	0.22	0.51
Average Exchange Rate	0.51	0.11
External Debt	0.32	0.33
Balance of Trade	-0.48	0.14

Source: Authors calculation from collected data

The above table shows the correlation among different macroeconomic factors (GDP, interest rate, inflation rate, growth rate, average exchange rate, external debt and balance of trade) with FDI.

From the table 2, it is cleared that GDP, interest rate, growth rate, average exchange rate and external debt have positive linear relationship with FDI. On the other hand, inflation rate and balance of trade have negative linear relationship with FDI. Their relationship is not statistically significant at 5% level of significance.

5.3: MULTIPLE LINEAR REGRESSION MODEL FOR FDI

Table 3
Testing overall significance of the regression model

Sources of Variation	DF	SS	MS	F value	P value
Regression	7	2.61	0.37	1.91	0.32
Residual	3	0.59	0.20		
Total	10	3.20			

Source: Authors calculation from collected data

From the table 3, it is observed that GDP, interest rate, inflation rate, growth rate, average exchange rate, external debt and balance of trade are not jointly significant with FDI at 5% level of significance.

Table 4
Testing individual significance of the regression model

Sources of Variation	Standardized Coefficients	Std. Error	t value	P value	95% CI Lower	Upper
Intercept	-2.21	2.65	-0.84	0.47	-10.63	6.21
GDP	-4.77	.02	-1.72	0.18	-0.11	0.03
Interest Rate	-0.53	.25	-0.92	0.43	-1.02	0.56

Inflation rate	-1.23	.18	-2.15	0.12	-0.97	0.19
Growth Rate	1.47	.12	2.20	0.12	-0.116	0.63
Average Exchange Rate	1.05	.04	1.84	0.16	-0.06	0.20
External Debt	2.78	.13	1.57	0.21	-0.21	0.62
Balance of Trade	-1.05	.07	-1.63	0.20	-0.33	0.11

$$R = 0.904, R^2 = 0.816 \text{ and } R_{adj}^2 = 0.388$$

Source: Authors calculation from collected data

From the table 4, the estimated model for FDI is,

$$\widehat{FDI} = -2.21 - 4.77 GDP - 0.53 Interest\ Rate - 1.23 Inflation\ Rate + 1.47 Growth\ Rate + 1.05 Average\ Exchange\ Rate + 2.78 External\ Debt - 1.05 Balance\ of\ Trade$$

GDP is negatively associated with FDI and the coefficient -4.77 indicates that one standard deviation change in GDP would lead to 4.77 standard deviation decrease in FDI.

Interest rate is negatively associated with FDI and the coefficient -0.53 indicates that one standard deviation change in interest rate would lead to 0.53 standard deviation decrease in FDI.

Inflation rate is negatively associated with FDI and the coefficient -1.23 indicates that one standard deviation change in inflation rate would lead to 1.23 standard deviation decrease in FDI.

Growth rate is positively associated with FDI and the coefficient 1.47 means that one standard deviation change in growth rate would lead to 1.47 standard deviation change in FDI.

Average exchange rate is positively associated with FDI and the coefficient 1.05 means that one standard deviation change in average exchange rate would lead to 1.05 standard deviation change in FDI.

External debt is positively associated with FDI and the coefficient 2.78 exerts that one standard deviation change in external debt would lead to 2.78 standard deviation change in FDI.

Balance of trade is negatively associated with FDI and the coefficient -1.05 means that one standard deviation change in average balance of trade would lead to 1.05 standard deviation decrease in FDI.

All the independent variables (GDP, interest rate, inflation rate, growth rate, average exchange rate, external debt and balance of trade) are statistically insignificant at 5% level of significance. That means, GDP, interest rate, inflation rate, growth rate, average exchange rate, external debt and balance of trade does not individually influence on FDI.

Adjusted R-square value 0.388 indicates that 38.80% of the total variation of FDI is explained by the GDP, interest rate, inflation rate, growth rate, average exchange rate, external debt and balance of trade, i.e., this model is on an average good enough in predicting the dependent variable FDI.

6. CONCLUSION

In a developing country like Bangladesh, foreign direct investment (FDI) can come to light as a noteworthy weapon for accomplishing the country's socio-economic development.

Based on the analysis, the researcher's explored that GDP, interest rate, inflation rate and balance of trade have negative effects on FDI and growth rate, average exchange rate and external

debt have positive effects on FDI. An indepth study is also needed in investigating the whole economic growth in the Bangladesh for effective decisions and making potential policies.

According to the study, the researcher's recommends that Bangladesh must have created conducive circumstances for increasing the share of foreign direct investment (FDI) and this can be executed through the utilize of effective and sound policies.

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TEACHING, LEARNING & RESOURCES OF TOP 25 INDIAN UNIVERSITIES: A STUDY FOR THE LAST FOUR YEARS BASED ON NIRF

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Abstract

National Institutional Ranking Framework (NIRF) is a system adopted by the Ministry of Education (formerly referred to as Ministry of Human Resource Development (MHRD), to rank all educational institutions at the national level. However, all things considered, the NIRF results from a separate perspective this complete exercise has laid the very foundations of data-driven education and e-governance. This study is meant to analyze the contributions made by the highest top 25 Universities among 100 universities from 2018-2021 under the "university" category as ranked by NIRF within the aspects of the various sub-parameters score of Teaching, Learning & Resources key parameter to find out the strength and weaknesses of the participating Indian educational institutions. The institutions will be benefited from this study in the sense that they can aim at the performance of the Teaching, Learning & Resources key parameters to hold a better position in NIRF ranking and the students will also be benefited as this will help them to make the right decision for getting attached with an institution. The present study is analytical research in nature and the data was collected from the official website of NIRF. The universities are also making tremendous efforts to enhance their performance on various parameters and their sub-parameters identified by the NIRF for ranking of universities. It is a well-accepted fact that an increase in high-quality Teaching, Learning & Resources by a university would invariably result in the growth of its ranking. This study reflects that Teaching, Learning & Resources have influenced the performance of universities positively.

Keywords: National Institutional Ranking Framework; NIRF; Ranking parameters; Top 25 universities – ranking; Teaching, Learning & Resources; Performance of TLR parameters and sub-parameters

INTRODUCTION

The institutional rating is a high phenomenon for measuring an institution's potentiality and highbrow power in converting contexts. The rating of universities and different academic establishments have to turn out to be famous in countrywide and global scenarios. Higher academic establishments are a high section for countrywide development, and it has a full-size effect on studies productivity. The continuous rating can create a surrounding to assess the power and

weaknesses of the establishments. It has an essential function in comparison, criticism, competition, perception, and loose promotion of a university. A better function at the worldwide and countrywide ranges creates an acquainted getting to know surroundings for the scholarly community.

The reason behind the inclusion of research performance in NIRF by the government was to place the Indian higher educational institutions in top world HEIs. The idea of NIRF was driven by the concept of QS world ranking though it was modified based on the environment of Indian educational institutions. The ranking of the institutions is determined based on the authentic data given by the institutions. Unlike an accreditation score, the NIRF score is a relative score, not an ultimate score. Every year all the institutions are invited to participate in the NIRF ranking by registration through the NIRF portals but the research category is introduced this year. Though all the institutions are invited accreditations are not given to all and the evaluation process is arranged every five years. Participating institutions are always alert to know the yearly performance of an institution whether it is increasing or decreasing.

2. National Institutional Ranking Framework (NIRF):

The NIRF [2] was set up by the Ministry of Education (formerly known as Ministry Human Resource Development - MHRD), Government of India, and launched by the Honourable Minister, of MHRD on 29th September 2015. The aim of India Ranking is to identify capabilities as a world-class university among 900+universities and 50,000+ standalone institutions. The NIRF outlines a methodology to rank higher educational institutions across the country. A Core Committee has been set up by MHRD to identify the broad parameters for ranking various universities and institutions. The methodology arises from the overall

recommendations and broad understanding arrived at by the Core Committee. India Rankings 2016 was released on 4th April 2016. The categories of education institutions ranked under NIRF based on this framework are given below table.

Categories of the Higher Educational Institutions as NIRF [3]

- ➢ Engineering
- ➢ Universities
- ➢ Management
- ➢ Pharmacy
- ➢ Medical
- ➢ Architecture
- ➢ Law
- ➢ Overall
- ➢ Colleges
- ➢ Dental

NIRF Ranking -key parameters

The higher education institutions are ranked under NIRF as per below 5 different parameters [4]:

1. Teaching, Learning & Resources (TLR) - to check the key activities in the higher education institutions.

2. Research and Professional Practice (RP)-high quality in teaching and learning is firmly related with the scholarship

3. Graduation Outcome (GO) – To find out the effectiveness of learning and teaching

4. Outreach &Inclusivity (OI)–settle special importance on the representation of women

5. Peer Perception(PR)–emphasize the importance to the perception of an institution

3. Objectives of the Study:

- ➢ To identify top 25 universities and their rank from 2018-2021 in NIRF system.
- ➢ To identify score from 2018-2021 for top 25 universities in NIRF system.
- ➢ To measure the performance of TLRparameters and their sub parameters' score from 2018-2020 in NIRF system

4. Literature Review:

Nassa, et al. (2021) [6] This article analyses data on five years of India Rankings to assess its impact on performance parameters of institutions of higher education in terms of publications, citations, patents, highly-cited publications and research funding under broad category of parameter named "Research and Professional Practices". The analysis on data on five years of India Rankings, i.e., 2016 to 2020 on various performance parameters of HEIs provides an interesting insight and reveals that participating institutions are making strenuous effort to improve their performance on various parameters or sub-parameters identified by the NIRF for ranking of HEIs. Most ranking systems allocate larger weightage to Bibliometric parameters including publications, citations, HCP, patents, etc. Moreover, it is a well-accepted fact that increase in high-quality publications by an HEI would invariably result in improvement of its ranking. This study reflects that ranking has influenced the performance of HEIs in a positive way.

Vijaya kumar et al., (2018)[7] examination the research trends in thirteen central universities which were established during 2009. The study analyses collaborative research as affiliations and major subject research within the central universities as per published publications. During nine-years (2009 to 2017), the expansion of publications is increasing steadily in central universities. Science, engineering and science are the main subject areas of publications. The study also found that the research collaboration among the peer isn't only with Indian institutes but also with foreign countries.

Mukherjee (2019)[8] has discussed the viability of the research and professional practices in NIRF ranking and teaching, learning & resources, research, professional practices, etc NIRF parameters. Hisstudies found out that only

selected universities in the fields of Science and applied science are published the good amount of research. This study suggested that developing quality infrastructure in the existing universities or institutes are required to get more research works.

Reddy (2015) [9] has discussed the current situation of higher education, high-impact research and university rankings in India. The study shows that India is on the 9th rank for citable documents in all subject categories, the United States is1st and China is on 2nd. This study also found out that high impact research is influenced by three important factors, namely individual, university and country-specific factors.

Hazelkorn (2011) [10] says that "Rankings are creating a social norm against which all institutions are measured'. While higher education has always been competitive, 'rankings make perceptions of prestige and quality explicit".

Sivakumaren (2017) [11]**,** shows that the IIMs(Indian Institute of Management) published publications are indexed 20.55% in Web of Science, 65.50% in Scopus and 13.95% in Indian Citation Index. It is also established a new parameter "h index" to assess the contributions of institutions, authors and departments and recommended to adopt.

Walia and Gupta (2012) [12] conducted a study of Select National Libraries' Websites on Web Impact Factor and their study revealed that websites of national libraries of USA, Australia and Britain were more visible among the selected national libraries and hosted the more content compare to the websites of India, Namibia and South Africa.

Vernon et al., (2018) [13] has discussed the utility of ranking systems and identify opportunities to support research and performance improvement by evaluating 13 eligible ranking systems. It found that 100% weightage on research

performance is given by most of the ranking systems. It was observed that 76% of the total ranks are associated with research, and 24% associated with academic or teaching quality.

Verma and Brahma (2017) [14] has discussed the Ranking of National Institutes of Technology (NITs) of northeast vicinity of India on the idea of net effect aspect. The result found was that the NIT Silchar from Assam tops with the highest number of web pages and highest number of Internal and External Links. It is found that according to the Simple Web Impact Factor, External Web Impact Factor and Internal Web Impact Factor NIT, Silchar was ranked at the top, while website of NIT Sikkim is at 2nd rank, NIT Mizoram have 3rd rank and NIT Nagaland have 4th rank while NIT Meghalaya and NIT Arunachal are respectively last in rank.

Sivakumaren (2018) [15] compared the publications of the Indian Academic institutions in top NIRF ranking in 2018 and found that 49623 and 55640 publications of engineering institutions were published in Web of Science and Scopus databases respectively.

5.Methodology:

To conduct the study, the universities have been selected from the list of NIRF rankings of the top 25 universities. The data concerning TLR key parameter and their sub-parameters of selected Universities from 2018 to 2021 have been derived for the study from the website of the National Institutional Ranking Framework (https://www.nirfindia.org). The institutions have been categorized into ten groups based on domains or categories e.g., Overall, Universities, Engineering, Management, Pharmacy, College, Medical, Law, Architecture, and Dental. The study considered to top 25 universities that rank in the top 25 ranked university category in Indian Ranking (NIRF) 2018, 2019, 2020, and 2021. The study has considered only the "University" categories and TLR parameter. 100 Universities have been listed under the university domain called top 100 universities. Out of 100 Universities, the top 25 Universities alone have been taken up for this study. The data thus extracted was exported to Ms-Excel for further analysis.

6. Scope and Limitation

The scope of the study is limited to top 25 universities in NIRF system. Moreover, only the score of TLR parameter and their sub-parameters from2018-2021 were considered for the present study.

7. Data Analysis and Discussion

Table1

State wise classification of universities participated in NIRF from 2019-2021

State where Universitieslocated in India	No of University			NIRF 2019		NIRF 2020		NIRF 2021	
	NIRF 2019	NIRF 2020	NIRF 2021	Government	Private / Deemed University	Government	Private / Deemed University	Government	Private / Deemed University
Delhi	4	4	4	4	0	4	0	4	0
Karnataka	2	2	3	1	1	1	1	2	1
Uttar Pradesh	3	2	3	3	0	2	0	2	1
Tamil Nadu	5	6	5	3	2	3	3	2	3
West Bengal	2	2	2	2	0	2	0	2	0
Telangena	1	1	1	1	0	1	0	1	0
Maharashtra	3	3	3	3	0	3	0	3	0
Rajasthan	1	1	1	0	1	0	1	0	1

Andhra Pradesh	1	1	1	1	0	1	0	1	0
Odisha	1	2	1	0	1	0	2	0	1
Kerala	1	1	0	1	0	1	0	0	0
Chandigarh	1	0	1	1	0	0	0	1	0
Total	25	25	25	20	05	18	07	18	07

It is observed that among those top 25 Universities, 5 Universities (3 are Government funded public Universities and 2 are privately funded universities) in the year 2019, 6 Universities (3 are Government funded public Universities and 3 are privately funded universities) in the year 2020, and 5 Universities (2 are Government funded public Universities and 3 are privately funded universities), in the year 2021 are located in the state of Tamil Nadu and next to that, 4 Universities located in the capital city of Delhi in 2019, 2020 and 2021 are managed to get into the top 25 ranking positions and all of these are Central Government funded Universities. Whereas 3 Universities located in Maharashtra are secured their slots in the top 25 ranking table in 2019 and 2020 and 2021 and all of these are Government funded Universities. 3 Universities in the year 2019 and 2021 and 2 Universities in the year 2020 located in the state of Uttar Pradesh (all of these are Government funded Universities, except one is a privately funded university in 2021) are secured their slots in the top 25 ranking table. It is to note that 2 universities secured rank in the top 25 Universities in 2018, 2019, and 2020 located in the state of West Bengal and Karnataka, and both of the Universities are State Government-funded universities in West Bengal, whereas one university is funded by Central Government and one is a public-funded university in Karnataka. Among those top 25 Universities, 20 of them are run by the government, and the rest of the 05 are run by private management in the year 2019, on the other hand, 18 of them are run by the government, and rest of the 07 are run by private management in the year 2020 and 2021.

Table 2
Performance of five key parameters of top 25 Universities under University category from 2018-2021 in NIRF system[1] [2] [3]

Top 25 University in NIRF 2020	Performances of five key parameter from 2018-2021																			
	TLR				RP				GO				OI							
	2018	2019	2020	2021	2018	2019	2020	2021	2018	2019	2020	2021	2018	2019	2020	2021	2018	2019	2020	2021
Indian Institute of Science, Bengaluru	84.5	83.1	82.2	79.1	91.08	83.1	92.1	91.48	75.48	89.24	82.88	82.67	43.7	78.56	52.84	58.39	100	100	100	100
Jawaharlal Nehru University, New Delhi	74.7	76.7	74.9	71.2	42.6	41.8	44.8	44.96	99.12	99.87	100	78.23	79.32	75.87	75.1	73.36	46.28	55.27	67.24	67.88
Banaras Hindu University, Varanasi	65.1	69.7	70.9	64.5	50.76	46.4	44.8	44.99	95.42	96.37	85.65	95.07	53.13	57.02	58.76	53.22	43.62	47.28	53.99	58.57
Amrita Vishwa Vidyapeetham, Coimbatore	74.0	73.0	69.7	64.2	45.56	43.7	52.1	54.33	71.03	70.28	73.66	100	58.27	70.23	65.83	65.54	31.44	31.01	44.3	71.35
Jadavpur University, Kolkata	57.0	54.3	53.3	51.7	57.07	51.8	52.9	52.02	91.39	90.28	90.38	71.35	36	45.48	78.66	50.17	35.50	51.83	71.4	87.77

University																				
University of Hyderabad, Hyderabad	74.3	74.8	71.1	69.5	45.35	43.7	42.9	40.74	84.45	83.65	81.18	77.44	55.7	58.77	54.01	58.72	21.66	36.71	58.32	77.44
Calcutta University, Kolkata	45.4	62.2	59.2	70.7	50.26	47.0	48.5	43.95	86.81	91.54	91.03	91.72	46.71	60.14	61.66	60.98	26.30	37.39	47.9	91.72
Manipal Academy of Higher Education, Manipal	76.0	77.9	75.2	67.6	44.16	38.3	41.8	48.17	61.29	69.71	75.35	76.05	64.23	66.78	66.21	65.25	26.30	30.21	43.9	86.67
Savitribai Phule Pune University, Pune	70.7	69.2	67.6	62.9	43.64	44.4	45.4	42.77	84.55	86.04	85.36	86.96	55.3	54.33	56.22	50.92	15.04	16.55	44.9	86.96
Jamia Millia Islamia, New Delhi	72.3	73.7	71.3	66.4	33.21	32.0	38.2	43.43	82.26	88.53	88.52	86.67	68.86	71.97	73.05	72.35	11.76	14.26	31.6	86.67
University of Delhi, Delhi	52.6	47.8	50.1	42.6	58.16	53.8	55.3	54.23	85.14	87.18	85.21	82.66	57.27	55.41	60.37	59.59	33.15	41.11	53.4	82.66
Anna University, Chennai	57.3	56.3	56	51.9	60.76	72.0	48.6	43.09	79.15	78.07	77.49	73.11	52.54	53.16	62.37	51.35	63.22	62.72	65.8	73.11
Bharathiar University, Coimbatore	65.5	66.9	67.4	61.7	41.7	45.0	46.4	47.44	76.95	76.53	75.58	74.17	52.63	52.11	52.81	53.21	22.63	31.20	37.1	74.17
Homi Bhabha National Institute, Mumbai	84.1	83.2	59.4	68.6	14.17	25.2	30.4	36.44	70.13	71.18	69.82	65.98	44.75	47.29	48.72	50.79	9.85	4.33	33.5	34.35
Birla Institute of Technology & Science, Pilani	61.0	56.6	62.7	55.8	35.55	34.1	40.7	43.13	69.33	73.06	72.48	72.05	57.72	52.26	60.97	59.5	35.32	34.47	41.3	72.05
Vellore Institute of Technology, Vellore	50.2	48.7	48.7	48.4	47.42	47.6	34.8	56.83	68.43	66.55	67.26	69.94	59.97	57.01	58.15	59.38	36.71	35.3	49	69.94
Aligarh Muslim University, Aligarh	70.2	76.6	70.9	69.6	36.87	35.3	40.7	40.86	90.56	85.66	55.71	80.06	49.03	57.57	5.74	56.93	26.30	18.45	38.8	80.06
Institute of Chemical Technology, Mumbai	53.8	54.6	51.9	49.3	48.52	48.4	48.0	55.82	69.18	72.61	75.32	75.96	52.55	51.49	46.08	46.07	15.90	20.28	44.0	75.96
Andhra University, Visakhapatnam	66.0	59.3	63.7	55.0	25.12	23.1	25.9	25.59	83.14	86.61	86.10	85.84	54.75	55.74	56.87	53.5	9.53	14.55	39.8	73.11
Siksha `O' Anusandhan, Bhubaneswar	74.3	72.9	72.4	63.9	23.44	21.1	25.7	29.92	66.21	69.84	71.13	70	63.07	61.04	63.78	54.45	7.17	20.02	30.4	71.34
Jamia Hamdard, New Delhi	67.6	69.6	69.7	57.8	32.29	29.9	28.4	27.62	74.48	74.12	73.16	69.75	52.2	63.52	61.71	60.64	2.01	6.86	23.1	23.67
University of Madras, Tamil Nadu	66.0	64.2	80.2	61.3	33.4	33.2	33.1	31.82	68.69	68.25	68.21	66.43	53.08	54.18	55.23	53.88	26.52	30.00	38.3	38.17
Kerala University, Kerala	65.1	74.8	73.7	64.7	19.79	18.8	19.0	19.93	83.76	75.70	86	89.11	47.60	51.2	51.56	51.53	7.17	8.59	21.54	21.44
Kalinga Institute of Industrial Technology,	57.3	66.0	67.8	62.4	22.52	18.1	22.5	27.78	69.57	71.70	72.25	70	65.94	69.37	76.15	78.42	3.55	14.55	31.30	71.74

Odisha																		
Shanmugha Arts Science Technology & Research Academy, Tamil Nadu	53.4	55.5	63.8	58.5	34.57	32.3	35.9	38.28	64.43	65.16	65.46	66.30	58.95	57.13	57.76	57.78	11.45 6.86	34.2	66.30

Performance of five key parameters

Teaching, Learning, and Resources (TLR)

As per Table 2, it is observed that among the top 25 universities, only one university i.e. Indian Institute of Science, Bengaluru secured a comparatively well score (i.e. 82.23, 83.16, 84.55 and 79.13 respectively) under the TLR parameter in IR 2018-2021. On the other hand, it is observed that Jadavpur University and Calcutta University secured comparatively fewer scores (i.e., 53.28 and 59.26) in this parameter but secured quite an impressive rank (i.e., 5th and 7th) in IR 2020. It is further observed that the top 25 ranked universities have not achieved a 100% score (i.e., 100) in this parameter.

Research and Professional Practice (RP)

From Table 2, it is observed that the top 25 ranked universities have not achieved a 100% score (i.e., 100) in this parameter in any of the IR 2018, 2019, 2020 and 2021. On the other hand, it is also found that most of the universities secured a score below 50 out of 100 under the RP parameter. It can be said that the performances of most of the universities are not well in this parameter except the Indian Institute of Science, Bengaluru. So, Universities should take more initiatives to improve the Research Professional Practice.

Outreach and Inclusivity (OI)

It is observed that among the top 25 universities, only one i.e., JNU secured the highest score (i.e., 75.1, 75.87, 79.32 and 73.36 respectively) under Outreach and Inclusivity (OI) parameter in IR 2018, 2019, 2020 and 2021 but secured the 2nd rank. On the other hand, it is observed that Indian Institute of Science, Bengaluru secured the score of 43.7, 78.56, 52.84 and 58.39 respectively in IR 2018, 2019, 2020 & 2021 but secured the 1st rank in consecutively three years. However, under this parameter, most of the universities have secured fewer scores compared to other parameters. It can be said that Universities need to take more initiatives to improve outreach and inclusivity.

Graduation Outcomes (GO)

From Table 2, it is observed that among the top 25 universities, only one university (i.e., JNU) secured a 100% score (i.e., 100) in this parameter is 2020 and in other two years also secured more than 99 in 2018 & 2019 but 78.23 in 2021. On the other hand, it is observed that most of the universities secured a score of above 70 out of 100 in this parameter from IR 2018-2020.However, under this parameter, most of the universities performed far better compared to other parameters.

Peer Perception (PR)

From Table 2, it is observed that among the top 25 universities, only one university i.e. Indian Institute of Science (IISc-B), secured a 100% score (i.e. 100) in this parameter. On the other hand, it is observed that most of the universities secured the score below 60 out of 100 in this parameter in IR 2018-2021.

Table 3
Performance of Teaching, Learning and Resources (TLR) Sub Parameter of top 25 Universities under University category from 2018-2021in NIRF system[1] [2] [3]

Top 25 Universities under University category in NIRF 2020	Performance of Sub Parameter of Teaching, Learning and Resources (TLR)																	
	Student Strength-SS (20)				Faculty Student Ration-FSR (2018-2020 = 30 2021 = 25)				Faculty's Qualification and Experience-FQE (20)				Financial Resources and their Utilisation-FRU (30)				OE (15)
	NIRF 2018	NIRF 2019	NIRF 2020	NIRF 2021	NIRF 2018	NIRF 2019	NIRF 2020	NIRF 2021	NIRF 2018	NIRF 2019	NIRF 2020	NIRF 2021	NIRF 2018	NIRF 2019	NIRF2020	NIRF2021	NIRF2021
Indian Institute of Science, Bengaluru	10.25	10.35	10.18	10.46	30	30	30	25	18.30	18.29B	18.45	18.34	26.30	24.52	23.60	15.33	10
Jawaharlal Nehru University, New Delhi	13.51	13.88	18.6	15.50	29.34	30	30	24.73	17.07	17.25	17.23	16.98	14.80	15.62	13.89	8.99	5
Banaras Hindu University, Varanasi	18.62	19.01	19.93	20	21.64	24.44	24.95	18.56	14.43	16.26	16.95	14.88	10.46	10.01	9.45	7.06	4
Amrita Vishwa Vidyapeetham, Coimbatore	15.33	16.22	15.03	17.39	29.83	30	30	25	16.55	16.07	15.51	15.66	12.34	10.73	9.12	6.18	0
Jadavpur University, Kolkata	17.64	17.38	17.65	17.32	19.69	18.75	19.11	15.74	12.70	12.27	11.06	12.57	7.06	6.29	5.56	3.58	2.50
University of Hyderabad, Hyderabad	12.11	13	11.90	12.82	30	30	30	25	19.63	19.52	18.97	19.70	12.62	12.29	10.28	6.06	6
Calcutta University, Kolkata	12.49	16.59	16.64	17.52	15.52	24.03	22.24	24.21	10.48	14.41	13.57	16.02	6.97	7.23	6.81	9.45	3.5
Manipal Academy	15.39	16.73	16.87	17.75	29.97	30	30	25	16.03	16.83	16.83	16.79	14.65	14.34	11.74	8.14	0

of Higher Education, Manipal																	
Savitribai Phule Pune University, Pune	14.51	14.77	15.04	13.22	24.07	24.72	24.94	19.35	14.44	14.27	15.01	13.94	17.69	15.49	12.66	8.45	8
Jamia Millia Islamia, New Delhi	15.95	16	16	16	28.47	30	30	25	16.10	16.45	16.22	16.01	11.81	11.30	9.13	6.44	3
University of Delhi, Delhi	17.54	18.07	18.19	17.65	15.35	12.54	14.94	11.10	9.68	8.34	9.41	8.48	9.95	8.91	7.64	5.43	0
Anna University, Chennai	15.78	16.60	16.26	15.62	21.87	21.62	22.03	19.49	12.60	12.29	12.52	12.94	7.06	5.88	5.19	3.87	0
Bharathiar University, Coimbatore	8.67	8.93	10.41	11.57	28.86	30	30	25	17.34	18.94C	18.73	18.86	10.67	9.06	8.33	6.36	0
Homi Bhabha National Institute, Mumbai	7.87	8.97	9.36	8.73	30	30	30	25	17.44	17.44	17.86	18.08	28.83	26.84	25.19	16.83	0
Birla Institute of Technology & Science, Pilani	14.27	14.37	16.50	16.50	21.47	19.04	21.99	18.19	13.27	12.49	14.48	14.51	12.02	10.77	9.79	6.62	0
Vellore Institute of Technology, Vellore	15.77	15.27	16.10	17.18	17.51	16.91	17.18	15.64	10.04	10.16	10.54	12.02	6.98	6.36	4.90	3.59	0
Aligarh Muslim University,	17.65	18.33	13.54	20	24.94	30	30	24.09	15.66	17.25	17.15	16.79	12.02	11.11	10.28	6.18	2

University																	
Aligarh																	
Institute of Chemical Technology, Mumbai	8.19	8.26	8.32	8.72	19.96	20.66	18.32	17.87	13.42	13.75	12.52	14.53	12.25	12.01	12.83	8.92	0
Andhra University, Visakhapatnam	14.93	14.97	16	15.96	25.33	25.86	21.53	16.40	15.40	16.36	14.15	12.83	10.42	12.18	12.09	8.35	1.50
Siksha `O` Anusandhan, Bhubaneswar	15.12	14.59	16.06	16.22	30	30	30	25		17.32	17.02	15.67	15.33	11.90	11.35	10.70	7.35	0
Jamia Hamdard, New Delhi	10.09	12.21	15.29	13.97	29.90	30	30	22.44	17.29	16.78	17.04	15.74	10.39	10.65	9.45	5.68	0
University of Madras, Tamil Nadu	9.77	10.39	10.78	10.53	27.69	27.07	28.34	24.51	18.16	17.91	18.36	17.35	10.44	8.92	7.90	4.96	4
Kerala University, Kerala	9.17	8.56	8.85	11.50	24.88	30	30	25		14.69	17.18	17.02	16.12	16.43	69.06	17.90	12.15	0
Kalinga Institute of Industrial Technology, Odisha	17.39	19	19	19	19.71	24.34	26.51	24.62	11.29	14.26	15.68	17.25	8.93	8.41	6.64	1.53	0
Shanmugha Arts Science Technology & Research Academy, Tamil Nadu	15.50	15.48	13.84	15.15	21.82	23.27	30	24.13	10.99	12.11	14.71	15.25	5.13	4.69	5.31	4.06	0

Performance of Teaching, Learning and Resources (TLR)
Student Strength-SS

As Table 3, under the Performance of Student Strength sub-parameter, Banaras Hindu University secured the highest score of 18.62 in 2018, 19.01 in 2019, 19.93 in 2020 and 20 in 2021, This means, out of the top 25 universities, Banaras Hindu University has core more in students' strength.

Faculty Student Ratio (FSR)

As Table 3, in the year 2018 under the performance of Faculty-Student ratio sub-parameter, Indian Institute of Science, University of Hyderabad, Homi Bhabha National Institute, and Siksha `O` Anusandhan secured the highest score 30, Manipal Academy of Higher Education secured a score of 29.97, Amrita Vishwa Vidyapeetham secured score 29.83.

In the years 2019 and 2020 under the Performance of Faculty Student Ration sub-parameter Indian Institute of Science, Jawaharlal Nehru University, Amrita Vishwa Vidyapeetham, University of Hyderabad, Manipal Academy of Higher Education, Amrita Vishwa Vidyapeetham, Jamia Millia Islamia, Bharathiar University, Homi Bhabha National Institute, Aligarh Muslim University, and Siksha `O` Anusandhan, have secured highest score 30. However, no institute has secured 30 in 2022 in the student ratio sub-parameter. These institutes are maintained a high standard in Faculty-Student Ratio.

Faculty's Qualification and Experience (FQE)

As Table 3, in the year 2018, 2019 under the Performance of Faculty's Qualification and Experience sub-parameter University of Hyderabad secured the highest score 19.63 in 2018, 19.52 in 2019, 18.97 in 2020 and 19.70 in 2021, and the Indian Institute of Science secured the score of 18.30 in 2018, 18.29 in 2019, 18.45 in 2020 and 18.34 in 2021. So, it can be said Faculty of the

University of Hyderabad is more qualified and experienced than the other universities in the last 4 years, however, placed 6th in the ranking.

Financial Resources and their Utilization (FRU)

As Table 3, under the Performance of Financial Resources and their Utilization sub-parameter, Homi Bhabha National Institute secured the highest score 28.83 in 2018, 26.84 in 2019, 25.19 in 2020, and 16.83 in 2021, however, 2nd highest score secured by the Indian Institute of Science with a score of 26.30 in 2018; 24.52 in 2019, 23.60 in 2020 and 15.33 in 2021. So it can be said that Homi Bhabha National Institute is the richest university out of the top 25 universities and then Indian Institute of Science and accordingly expenditure per student is also higher in these universities. It can also be said that Homi Bhabha National Institute and Indian

Institute of Science has also used available funds properly and more efficiently, however, placed in 13th in the rank.

As Table 3, under the sub-parameter of "Student Strength-SS", JU, BHU, University of Delhi, KIIT, Manipal Academy of Higher Education have secured good scores than IISc-B in the year 2018, 2019, 2020, and 2021 respectively, whereas IISc-B secured the first rank in four consecutive years. So, JU, BHU, and DU have more students than IISc-B, but IISc-B secured the highest rank. Besides under the sub-parameter of "Faculty-Student Ratio (FSR)"," Faculty's Qualification and Experience (FQE)"," Financial Resources and their Utilization (FRU)", IISc-B and JU secured the highest score than other universities in consecutive three years. IISc and JU have a very impressive Faculty-Student ratio, Faculty Qualification and Experience, and Financial Resources and their Utilization than the other Universities in India.

Table 4
Performance of University Rank and Score of top 25 Universities under University category from 2018-2020 in NIRF system[4] [5] [6]

Top 25 Universities under University category in NIRF 2020	Rank				Overall Score			
	NIRF 2018	NIRF 2019	NIRF 2020	NIRF 2021	NIRF 2018	NIRF 2019	NIRF 2020	NIRF 2021
Indian Institute of Science, Bengaluru	1	1	1	1	91.81	82.28	84.18	82.67
Jawaharlal Nehru University, New Delhi	2	2	2	2	65.57	68.68	70.16	67.99
Banaras Hindu University, Varanasi	3	3	3	3	63.52	64.55	63.15	64.02
Amrita Vishwa Vidyapeetham, Coimbatore	8	8	4	5	58.46	59.22	62.27	61.23
Jadavpur University, Kolkata	6	6	5	8	59.68	60.53	61.99	60.33
University of Hyderabad, Hyderabad	5	4	6	9	60.54	61.85	61.70	59.71
Calcutta University, Kolkata	14	5	7	4	53.38	60.87	61.53	62.06
Manipal Academy of Higher Education, Manipal	11	9	8	7	57.37	58.50	61.51	60.58
Savitribai Phule Pune University, Pune	9	10	9	11	58.24	58.40	61.13	58.34
Jamia Millia Islamia, New Delhi	12	12	10	6	56.18	58.07	61.07	60.74
University of Delhi, Delhi	7	13	11	12	58.69	57.59	60.10	57.09
Anna University, Chennai	4	7	12	16	62.82	60.35	58.71	54.97
Bharathiar University, Coimbatore	13	14	13	14	55.08	57.23	58.30	56.44
Homi Bhabha National Institute, Mumbai	26	17	14	18	48.98	51.95	56.04	53.24
Birla Institute of Technology & Science, Pilani	17	23	15	17	52.15	50.53	55.79	54.74
Vellore Institute of Technology, Vellore	16	19	16	13	52.68	51.44	55.22	56.63
Aligarh Muslim University, Aligarh	10	11	17	10	57.78	58.36	54.30	58.97
Institute of Chemical Technology, Mumbai	19	15	18	15	51.39	52.62	54.10	56.10
Andhra University, Visakhapatnam	22	16	19	24	50.39	52.11	53.82	51.10
Siksha `O` Anusandhan, Bhubaneswar	24	24	20	20	49.59	50.31	53.10	52.34
Jamia Hamdard, New	23	18	21	41	50.31	51.73	52.60	48.02

Delhi								
University of Madras, Tamil Nadu	18	20	22	28	51.52	51.34	52.55	50.46
Kerala University, Kerala	30	22	23	27	47.72	51.21	52.35	50.52
Kalinga Institute of Industrial Technology, Odisha	42	31	24	21	44.81	47.97	52.33	52.06
Shanmugha Arts Science Technology & Research Academy, Tamil Nadu	36	40	25	22	46.33	45.80	52.22	51.83

The major changes are seen in the overall score of the top 25 universities under the university category. It is found that consecutively four years Indian Institute of Science got the first position in the National Institutional Ranking Framework (NIRF) and the overall score are 91.81(2018), 82.28(2019), 84.18(2020), and 82.67(2021). The 2nd rank and 3rd rank consecutively four years in NIRF followed by Jawaharlal Nehru University, Banaras Hindu University. In the year 2018 Calcutta University got the 14th position in the National Institutional Ranking Framework (NIRF),in the year 2020 got the 7th position whereas in the year 2021 got 4th position.

Conclusion:

Tamil Nadu has the most number of universities among those top 25 Universities. Among the top 25 Universities, 5 Universities (3 are Government funded public Universities and 2 are privately funded universities) in the year 2019, 6 Universities (3 are Government funded public Universities and 3 are privately funded universities) in the year 2020, and 5 Universities (2 are Government funded public Universities and 3 are privately funded universities), in the year 2021 are located in the state of Tamil Nadu. Among those top 25 Universities, 20 of them are run by the government, and the rest of the 05 are run by private management in the year 2019, on the other hand, 18 of them are run by the government, and the rest of the 07 are run by private management in the year 2020 and 2021. Indian Institute of Science (IISc) has secured a comparatively well score under the Teaching, Learning, and Resources (TLR). It means IISc has taken much more initiatives in teaching and learning and resources than the other universities and ranked first in the university category. On the other hand, Jadavpur University and Calcutta University did not take much initiative sin TLR but secured quite an impressive rank (i.e., 5th and 7th) in IR 2020. To improve in ranking, it is required universities should take more initiatives in TLR. More initiatives also need to take by other universities other than IISc, in terms of improving outreach and inclusivity and Research and Professional Practice. This is to note that even JNU secured the highest score under Outreach and Inclusivity (OI) and Graduation Outcomes (GO) parameters but placed in the 2nd rank and Indian Institute of Science has secured lesser score, but placed in the first rank in consecutively. Banaras Hindu University has more students' strengths than any other university in India. Indian Institute of Science, University of Hyderabad, Homi Bhabha National Institute, Siksha `O` Anusandhan, Manipal Academy of Higher Education, Amrita Vishwa Vidyapeetham, Jawaharlal Nehru University, Jamia Millia Islamia, Bharathiar University, Homi Bhabha National Institute, and Aligarh Muslim University have maintained very good

Faculty Student Ratio (FSR). However other universities are trying their best to improve Faculty Student Ratio. The faculty of the University of Hyderabad is more qualified and experienced than the other universities, however, placed 6th in the ranking. It is found that most of the universities have faced challenges as financial resources are not enough and even some universities have enough finance but could use properly. Homi Bhabha National Institute is the richest university in India, however, placed in 13th in the rank and IISc has also done well in making available required funds and managing financial resources. Accordingly, expenditure per student is also very high in these two universities compared to other universities. It can also be said that Homi Bhabha National Institute and the Indian Institute of Science have also used available funds properly.JU, BHU, DU, KIIT, and Manipal Academy of Higher Education have a higher number of students than the IISc, whereas IISc-B secured the first rank in four consecutive years. Besides under the sub-parameter of "Faculty-Student Ratio (FSR)"," Faculty's Qualification and Experience (FQE)"," Financial Resources and their Utilisation (FRU)", IISc-B and JU have done better than other universities. IISc and JU have a very impressive Faculty-Student ratio, Faculty Qualification and Experience, and Financial Resources and their Utilisation than the other Universities in India. Indian Institute of Science is publishing more research papers in all the last four years, than the other universities and placed 1st rank among the Universities. It further reveals that Homi Bhabha National Institute which is the richest university has spent more money per student has been publishing a lesser number of research papers than any other top 25 university. However, Homi Bhabha National Institute secured 14th rank among the Universities. Anna University, Jadavpur University, and Vellore Institute

of Technology have also been publishing a good number of papers. IISc has the highest number of quality publications that are cited more and published more in high-impact factor journals. After IISc, other universities that published high good quality papers are the University of Delhi, Jadavpur University, and then Vellore Institute of Technology. IISc has also published, registered, and granted the highest number of IPR and Patents, than the other universities. Under the Performance of "Footprint of Projects, Professional Practice, and Executive Development Programmes (FPPP), Amrita Vishwa Vidyapeetham and Manipal Academy of Higher Education are also doing well apart from IISc.

Jawaharlal Nehru University has got more diversify of students and researchers from the different regions than the other Indian Universities. Bharathiar University, Calcutta University, Kerala University, and Jawaharlal Nehru University have more diversified in respects women students and researchers from the different regions than the other Indian Universities. It also can be said that many Universities have the good number of women students and researchers and it indicates women are found equally studding in most of the universities. Savitribai Phule Pune University, Jawaharlal Nehru University, Calcutta University, Jadavpur University, and Indian Institute of Science have more students and researchers from economically and socially challenged groups and more facilities have been provided to this group of students, than the other universities in India. However, all the top 25 universities are good enough in providing facilities for economically and socially challenged students. So economically poor and socially backward is no barrier for studying good students. Jawaharlal Nehru University, Banaras Hindu University, Savitribai Phule Pune University, Amrita Vishwa Vidyapeetham, Manipal

Academy of Higher Education, Jamia Millia Islamia, University of Delhi, Anna University, Vellore Institute of Technology, Andhra University, and Siksha `O` Anusandhan have enough facilities for Physically Challenged Students and the good number of Physically Challenged Students then the other universities. This is also to note that most of the top 25 universities have strong facilities for Physically Challenged Students. Most of the top universities are producing a good number of quality students and doing well in examinations and graduating in degree courses and Ph.D. students. The major changes are seen in the overall score of the top 25 universities under the university category. It is found that consecutively Indian Institute of Science, Nehru University, Banaras Hindu University got the first, second, and third positions in the National Institutional Ranking Framework (NIRF) respectively. In the year 2018 Calcutta University got the 14th position in the National Institutional Ranking Framework (NIRF), however, in the year 2020 got the 7th position whereas in the year 2021 got the 4th position. Some universities are consecutively are kept themselves in good rank, however, many universities are facing challenges within themselves to keep their place or improve.

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