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Comprehensive Analysis of the Accreditation Status of Indian Universities: Evaluating NAAC Quality Indicators for Continuous Improvement in Higher Education

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Abstract—This research article presents a comprehensive analysis of the accreditation status of Indian universities, focusing on the evaluation of National Assessment and Accreditation Council (NAAC) quality indicators from 2018 to 2022. The study delves into the various aspects considered by NAAC, including curricular aspects, teaching-learning and evaluation, research and innovations, infrastructure and learning resources, student support and progression, governance, leadership and management, and institutional values and best practices. By examining the CGPA scores for different types of universities, namely Central Universities, Deemed Universities, Institutions of National Importance, State Private Universities, and State Universities, the study sheds light on their overall performance and areas of strength or improvement. The research aims to provide valuable insights for policymakers, university administrators, and stakeholders in enhancing the quality of education and fostering continuous improvement in Indian higher education institutions.

Keywords— Indian universities; accreditation; NAAC; higher education.

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1. Introduction

The accreditation of educational institutions plays a pivotal role in ensuring and enhancing the quality of higher education. In the context of Indian universities, the National Assessment and Accreditation Council (NAAC) serves as a significant regulatory body responsible for evaluating and accrediting higher education institutions. NAAC employs a robust framework that incorporates multiple quality indicators to assess the overall performance and effectiveness of universities in India. University accreditation in India plays a vital role in ensuring the quality and credibility of higher education institutions. The process involves external evaluation by an accrediting body to determine if an institution meets established standards and norms (Duarte & Vardasca, 2023; Singha & Subramaniam, 2013). Accreditation in India is distinct from the one-time "recognition" process, as it involves periodic reviews to assess if institutions are achieving their objectives and maintaining quality. The Indian government has constituted several statutory bodies to oversee quality assurance and promote excellence in higher

education. These include the National Assessment and Accreditation Council (NAAC), National Board of Accreditation (NBA), Distance Education Council (DEC), and various professional councils. Each body has its application model tailored to specific needs, but they share the underlying philosophies of self-study and external quality assessment. (Singha & Subramanian, 2013).

This research article aims to provide a comprehensive analysis of the accreditation status of Indian universities, with a particular focus on the evaluation of NAAC quality indicators. By examining key aspects such as curricular aspects, teaching-learning and evaluation, research and innovations, infrastructure and learning resources, student support and progression, governance, leadership and management, and institutional values and best practices, this study seeks to shed light on the strengths and areas of improvement across various types of universities.

NAAC has developed a set of seven criteria to assess universities based on various aspects of their functioning. These criteria and their respective weightage are: Curricular Aspects (Weightage: 150) - This criterion assesses the quality and relevance of the curriculum, course design, and the academic flexibility provided by the university. Teaching-learning and Evaluation (Weightage: 200) - This criterion evaluates the teaching-learning process, pedagogical methods, student-faculty ratio, and the effectiveness of the evaluation system. Research, Innovations, and Extension (Weightage: 250) - This criterion evaluates the research and development activities carried out by the university, its contribution to knowledge creation, and dissemination, as well as its outreach programs and extension activities. Infrastructure and Learning Resources (Weightage: 100) - This criterion evaluates the quality of physical and academic infrastructure, availability, and utilization of learning resources such as books, journals, and digital resources, as well as the information and communication technology (ICT) facilities. Student Support and Progression (Weightage: 100) - This criterion evaluates the support provided to students to enhance their academic and personal development, including counseling, mentoring, and placement services, as well as the progression of students to higher education or employment. Governance, Leadership, and Management (Weightage: 100) - This criterion evaluates the effectiveness of governance, leadership, and management of the university, including its organizational structure, financial management, and decision-making processes. Institutional Values and Best Practices (Weightage: 100) - This criterion evaluates the adherence of the university to institutional values such as ethics, social responsibility, and inclusiveness, as well as the adoption of best practices in various aspects of its functioning. To summarize, these seven criteria are used by NAAC to evaluate the overall performance and quality of universities in India, with each criterion assigned a weightage based on its perceived importance.

The study focuses on five main types of universities, namely Central Universities, Deemed Universities, Institutions of National Importance, State Private Universities, and State Universities, each of which contributes significantly to the higher education landscape of India. By considering the Cumulative Grade Point Average (CGPA) scores assigned by NAAC, the analysis aims to provide an in-depth understanding of the performance levels of these institutions.

The comprehensive analysis of the accreditation status of Indian universities, through the lens of NAAC quality indicators, is crucial for promoting continuous improvement in higher education. Such a study not only ensures that educational institutions adhere to high standards but also plays a pivotal role in shaping the future of higher education in India, making it more competitive, inclusive, and aligned with global standards. It can help enhance the quality of higher education by identifying areas of strength and weakness, providing a benchmark for universities to assess their performance, and informing policy decisions. The study can also guide resource allocation, improve student outcomes, facilitate international comparisons, and promote accountability among higher education institutions. Additionally, it can ultimately contribute to the overall national development by ensuring that universities can effectively address the country's economic, social, and cultural needs.

The findings of this research hold valuable implications for policymakers, university administrators, and other stakeholders in shaping strategies for the continuous improvement and advancement of the Indian higher education system. By identifying the areas of strength and areas requiring improvement, this study intends to

contribute to the ongoing efforts to enhance the overall quality and effectiveness of education in Indian universities.

In the following sections, we will delve into the methodology used for data collection and analysis, present the results of the examination of NAAC quality indicators, and discuss the implications and recommendations derived from this study. Through this comprehensive assessment, we aim to contribute to the discourse surrounding accreditation practices and provide valuable insights for the advancement of higher education in India. The present study puts forward the following research questions:

- How do Indian universities perform in various NAAC quality indicators, including curricular aspects, teaching-learning and evaluation, research and innovations, infrastructure and learning resources, student support and progression, governance, leadership and management, and institutional values and best practices?

- What are the differences in the accreditation status among different types of Indian universities, such as Central Universities, Deemed Universities, Institutions of National Importance, State Private Universities, and State Universities, based on their CGPA scores assigned by NAAC?

- What are the key areas of strength and improvement identified through the comprehensive examination of NAAC quality indicators, and what implications do these findings hold for policymakers and university administrators in fostering continuous enhancement of higher education in India?

2. Literature Review

Inda, Srinivasulu & Sinha (2023) explored NAAC-accredited Indian universities, revealing a positive correlation between governance, leadership, management, and criteria like research, student support, teaching-learning, and infrastructure. Notably, quality research positively affected teaching and student progression. Studies have emphasized the benefits of accreditation for Indian universities. Accreditation enhances the credibility of institutions, enabling them to attract students, faculty, and research collaborations globally (Emmanuelle, 2023). The New Education Policy (NEP) 2020 accentuates outcome-based education. It aims to form a single regulator, the National Higher Education Regulatory Authority (NHERA), to implement a 'Light but tight' regulatory framework in a facilitative manner. The policy expects the highest standards of professional integrity from Higher Education Institutions (HEIs) and envisages extensive use of technology to minimise human interface and maintain transparency (Sharma & Inda, 2021). Aithal and Aithal (2021) evaluated the top nine A++-scoring Indian universities based on a variety of criteria, and the full scores obtained were compared with research performance and analyzed using the ABC model of research productivity, the impact of organizational leaders as role models on the output of research, and a critical analysis of the organizational SWOC based on NAAC data and results. Additionally, infrastructure and learning resources correlated positively with teaching, student progress, and research output. Their study focused on Western Indian universities. Ravikumar et al., (2021) studied Indian universities' NAAC-accredited performance, finding the Southern region leading with a CGPA of 3.07, while Eastern region universities showed lower performance. Universities demonstrated better responses compared to colleges. In another study, Maharwal & Tripathi (2019) examined NAAC's impact on libraries in Rajasthan's higher education institutions. They found a positive connection between higher NAAC Grades and library aspects, emphasizing the contribution of these aspects to higher NAAC grading, despite budget constraints. In the study conducted by Chigateri & Jange (2017), they attempted to assess college libraries in North Karnataka, encompassing 110 colleges, in relation to factors such as Library credibility, College Librarian privileges, usage of library services, and implementation of best practices. The findings serve as a concerning revelation for college librarians, prompting them to recognize both strengths and weaknesses to enhance accreditation.

3. Research Methodology

A. Research design

This study adopts a descriptive and analytical research design to comprehensively examine the accreditation status of Indian universities and assess their performance based on NAAC quality indicators. The research design allows for a detailed exploration of multiple aspects and facilitates the comparison of different types of universities.

B. Data collection

The data for this research is sourced from the National Assessment and Accreditation Council (NAAC) database and reports, covering the period from 2018 to 2022. The CGPA scores assigned to each university for various quality indicators, including curricular aspects, teaching-learning and evaluation, research and innovations, infrastructure and learning resources, student support and progression, governance, leadership and management, and institutional values and best practices, were utilized for analysis. The data for the study was collected from the NAAC website. HEIs are required to submit detailed data and documentation related to various aspects of their functioning, including curriculum, teaching-learning processes, research, infrastructure, student support, and governance. This data is submitted through the Institutional Information for Quality Assessment (IIQA) portal maintained by NAAC. (National Assessment and Accreditation Council, 2019). Primarily the data was collected through secondary sources, so the screening of the data was time-consuming which was a major drawback of this study. The researchers had overcomed them by adopting a rigorous and systematic approach to data collection and analysis

C. Sample selection

The sample comprises Indian universities that have undergone NAAC accreditation and have received CGPA scores for each quality indicator between 2018-2022. The study will include universities from different states and regions, ensuring a diverse representation of institutions.

D. Reliability and Validity

To ensure the reliability and validity of the data analysis process for assessing the accreditation status of Indian universities based on NAAC quality indicators the researchers considered a few key strategies. Firstly, data was collected from reputable sources i.e. from the NAAC website to ensure its accuracy and comprehensiveness. Peer review and transparency in methodology and documentation further validated the analysis.

E. Data analysis

Figure 1 presents an analysis of the grades awarded to various universities in India based on their performance. The table shows the distribution of universities across different grades based on their performance. The highest number of universities (46) received the grade A+, followed closely by grade A with 42 universities. Approximately 52.61% of the universities received grades A, A+, and A++, indicating that a significant portion of the institutions is performing well. The distribution across grades A, A+, and A++ comprises 52.99% of the universities, showcasing a substantial proportion of institutions achieving higher levels of excellence. Grades B and B+ account for 29.49% of the universities, signifying that there are institutions with satisfactory performance, though there is room for improvement. Grades B++ and C make up 16.50% of the universities, indicating that a considerable number of institutions need to enhance their performance to attain higher grades. Only 6.83% of the universities received grades below B++, reflecting the need for targeted efforts to uplift the performance of these institutions. The lowest grade, D, was assigned to 2 universities, comprising only 0.85% of the total. This indicates a limited number of institutions facing significant challenges in achieving the desired quality standards.

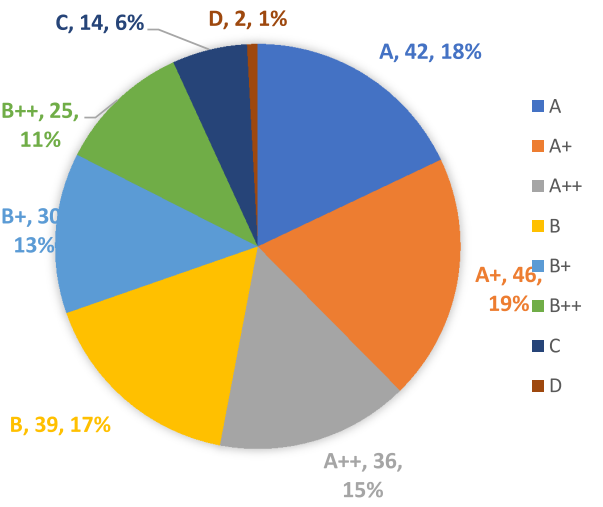

Fig. 1 : Distribution of Universities in India by Performance Grade.

Figure 2 provides an analysis of the distribution of universities in various states of India based on the number of universities and the percentage of universities in each state. The data shows that there are a total of 234 universities in India, spread across different states and union territories. Tamil Nadu has the highest number of universities, with 29 institutions, accounting for 12.39% of the total

universities in India. Karnataka follows closely with 24 universities, making up 10.26% of the total, indicating a strong presence of educational institutions in these states. Maharashtra 21 universities and Uttar Pradesh have 20 universities, contributing to 8.97% and 8.55% of the total universities, respectively. Several states have a smaller number of universities, such as Arunachal Pradesh, Chandigarh, Goa, Meghalaya, Mizoram, Sikkim, and Tripura, each having one or two universities. Southern states like Tamil Nadu, Karnataka, and Kerala have a higher concentration of universities, with a total of 59 universities combined. Northern states like Uttar Pradesh, Rajasthan, and Delhi also have a substantial number of universities, with a total of 48 universities combined.

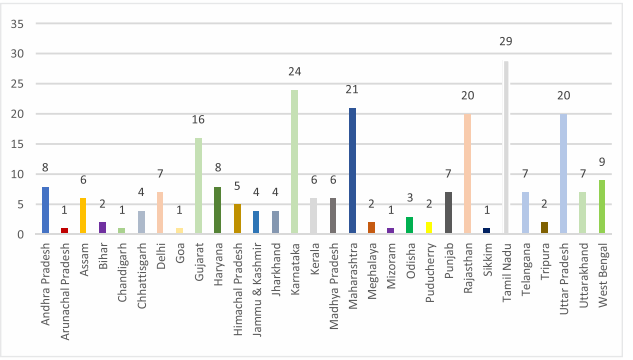

Fig. 2 : Number of Universities by State.

Figure 3 presents a detailed analysis of the distribution of universities in various states of India based on their types and average CGPA scores. The table categorizes universities into different types, including Central Universities, Deemed Universities, State Private Universities, State Universities, and an Institution of National Importance. Among Central Universities, Mizoram stands out with the highest average CGPA score of 3.16, followed by Puducherry with 3.10. Among Deemed Universities, Tamil Nadu holds the highest average CGPA score of 3.39, followed by Odisha with 3.70. For State Private Universities, Tripura and Puducherry have the highest average CGPA scores of 2.63 and 3.34, respectively. Among State Universities, Kerala takes the lead with an average CGPA score of 3.35, followed by Mizoram with 3.16. Southern states, such as Tamil Nadu, Kerala, and Puducherry, have a higher number of universities with relatively higher average CGPA scores, indicating their strong performance in higher education. Some states, like Mizoram and Odisha, have fewer universities but display impressive performance with higher average CGPA scores.

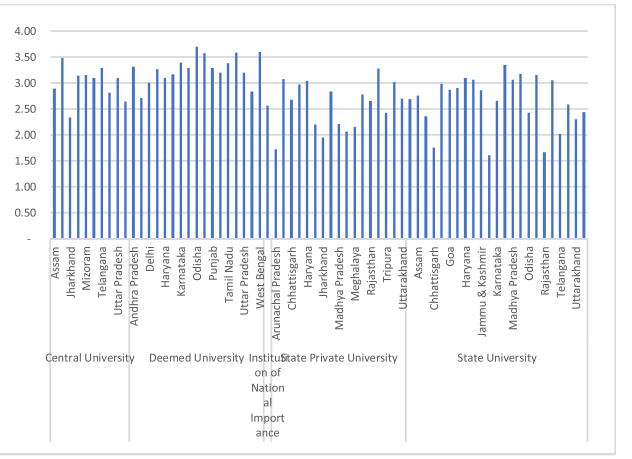

Fig. 3 : Distribution of Universities in Indian States by Type and CGPA Scores.

Table 1 provides a comprehensive analysis of the Institutional CGPA scores of universities in various states of India. The "Average of Institutional CGPA" column shows the average performance of universities in each state. The total average CGPA for all states is 2.91. The "Max of Institutional CGPA" and "Min of Institutional CGPA" columns indicate the highest and lowest CGPA scores achieved by universities within each state, respectively. The "Std Dev of Institutional CGPA" column represents the standard deviation of CGPA scores within each state. Higher standard deviation values suggest greater variability in the performance of universities in a state. The "Range" column shows the range of CGPA scores within each state, i.e., the difference between the maximum and minimum CGPA scores. A larger range signifies greater disparity in the CGPA scores. Tamil Nadu, Puducherry, and Odisha stand out as the top-performing states with high average CGPA scores of 3.23, 3.34, and 3.28, respectively. States like Arunachal Pradesh, Chandigarh, Goa, Mizoram, and Sikkim have missing or very low CGPA scores, indicating limited data availability or a lack of university performance data. Some states, such as Rajasthan, Gujarat, and West Bengal, have notable variability in CGPA scores, as evidenced by their relatively high standard deviation values and a wide range between the maximum and minimum scores.

Figure 4 presents an analysis of the distribution of universities in India based on their NAAC accreditation grades. The universities are categorized into different types, such as Central Universities, Deemed Universities, Institutions of National Importance, State Private Universities, and State Universities, and are further classified based on their respective grades (A, A+, A++, B, B+, B++, C, D).

Table 1 :
Indian State Wise Cgpa of Accredited Universities

Name of State	Minimum	Maximum	Mean	SD	Range
Andhra Pradesh	2.23	3.57	2.93	0.55	1.34
Arunachal Pradesh	1.72	1.72	1.72		-
Assam	2.39	3.41	2.86	0.38	1.02
Bihar	2.17	2.55	2.36	0.27	0.38
Chandigarh	2.71	2.71	2.71		-
Chhattisgarh	1.76	2.76	2.22	0.54	1.00
Delhi	2.80	3.61	3.20	0.31	0.81
Goa	2.87	2.87	2.87		-
Gujarat	1.65	3.61	2.97	0.57	1.96
Haryana	2.26	3.53	3.09	0.43	1.27
Himachal Pradesh	2.02	3.07	2.38	0.43	1.05
Jammu & Kashmir	2.50	3.31	2.86	0.35	0.81
Jharkhand	1.61	3.17	2.27	0.67	1.56
Karnataka	1.96	3.71	3.01	0.47	1.75
Kerala	2.85	3.67	3.31	0.28	0.82
Madhya Pradesh	1.77	3.30	2.49	0.52	1.53
Maharashtra	2.06	3.65	3.18	0.38	1.59
Meghalaya	1.25	3.07	2.16	1.29	1.82
Mizoram	3.16	3.16	3.16		-
Odisha	2.43	3.88	3.28	0.76	1.45
Puducherry	3.10	3.58	3.34	0.34	0.48
Punjab	2.20	3.85	2.96	0.61	1.65
Rajasthan	1.67	3.63	2.68	0.53	1.96
Sikkim	3.28	3.28	3.28		-
Tamil Nadu	2.28	3.76	3.23	0.42	1.48
Telangana	1.62	3.59	2.61	0.77	1.97
Tripura	2.43	2.82	2.63	0.28	0.39
Uttar Pradesh	1.52	3.55	2.91	0.52	2.03
Uttarakhand	1.78	3.30	2.62	0.64	1.52
West Bengal	1.44	3.60	2.59	0.61	2.16

The table shows the count of universities in each grade for different types. Grade A+ has the highest number of universities across all types, with a total count of 46, followed by Grade A with 42 universities. Grade A++ has 36 universities, while Grades B, B+, and B++ have 39, 30, and 25 universities, respectively. Grade C has 14 universities, and there are only 2 universities in Grade D. State Universities have the highest count of universities in Grade A, A+, and A++, with 16, 15, and 8 universities, respectively. This indicates that state universities have excelled in meeting the quality benchmarks set by NAAC. Deemed Universities also showcase a significant number of universities in Grade A+, A++, and B, with 15, 25, and 2 universities, respectively, highlighting their overall good performance. Central Universities have a notable presence in Grade A and B with 3 and 2 universities, respectively, indicating a favourable performance in these categories. State Private Universities have a mixed distribution of grades, with the majority falling into Grade B, B+, and B++. There is one university each in Grade A, A++, C, and D, showcasing a varied performance across this category.

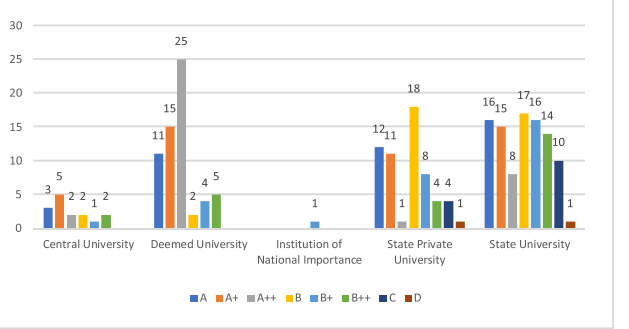

Fig. 4 : Number of Universities and Grade distribution – University type wise

Figure 5 presents a state-wise analysis of the distribution of universities across different grades in India. The state-wise analysis of Indian universities reveals a diverse educational landscape across the country. Karnataka and Tamil Nadu lead in the number of universities with top grades (A, A+, A++), demonstrating their strong focus on providing quality education and research opportunities. Maharashtra and Gujarat also show a significant presence of higher-performing institutions, indicating their commitment to excellence in higher education. Some states, such as Arunachal Pradesh, Mizoram, and

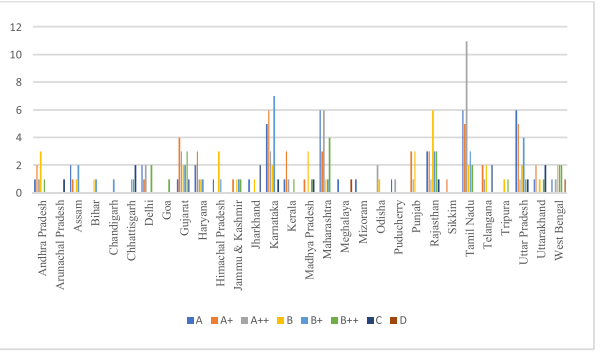

Fig. 5 : Distribution of Universities in Indian State wise by Performance Grades.

Sikkim, have a single university with a higher grade (A++), reflecting their efforts to establish and maintain high educational standards. The lowest grade, D, was assigned to only 2 universities, one in Meghalaya and another one in West Bengal, which is a positive sign as it reflects the relatively low number of institutions facing significant challenges in achieving the desired quality standard

Figure 6 presents a comprehensive analysis of different types of universities in India based on their institutional CGPA (Cumulative Grade Point Average) and categorizes them into cycles. There are a total of 15 Central Universities. Cycle 1 has three universities with an average CGPA of 3.08, Cycle 2 includes six universities with an average CGPA of 3.13, and Cycle 3 comprises six universities with an average CGPA of 3.28. There are 62 Deemed Universities in total. Cycle 1 has six universities with an average CGPA of 3.32, Cycle 2 includes 32 universities with an average CGPA of 3.28, Cycle 3 comprises 20 universities with an average CGPA of 3.41, and Cycle 4 has four universities with an average CGPA of 3.26. There is one institution of National Importance with an average CGPA of 2.57. There are 59 State Private Universities in total. Cycle 1 has 46 universities with an average CGPA of 2.55, Cycle 2 includes 12 universities with an average CGPA of 3.03, and Cycle 3 has one university with an average CGPA of 3.33. There are 97 State Universities in total. Cycle 1 has 41 universities with an average CGPA of 2.48, Cycle 2 includes 18 universities with an average CGPA of 2.72, Cycle 3 comprises 17 universities with an average CGPA of 3.07, and Cycle 4 has 21 universities with an average CGPA of 3.16. The overall analysis of the table shows that Deemed Universities have the highest number of universities with higher CGPAs in all cycles, followed by State Universities. State Private Universities have a relatively lower representation, while Central Universities and Institutions of National Importance show mixed performances across cycles. The average institutional CGPA for the entire dataset is 2.91, indicating an overall moderate level of performance among universities in India.

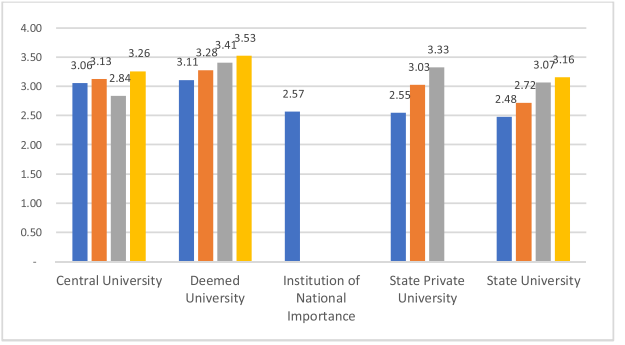

Fig. 6. :Different Types of Universities in India Based on Institutional CGPA and Cycles.

Table 2 provides a summary of the average, maximum, minimum, and standard deviation of the institutional CGPA for different types of universities in India. The average institutional CGPA for Central Universities is 3.08, with the highest CGPA of 3.61 and the lowest CGPA of 2.34. The standard deviation of CGPA is 0.39, indicating a relatively narrow spread of CGPA values. The range of CGPA scores is 1.27. Deemed Universities have an average institutional CGPA of 3.32, with the highest CGPA of 3.88 and the lowest CGPA of 2.38. The standard deviation is 0.34, implying a relatively consistent performance across these universities. The range of CGPA scores is 1.50. State Private Universities have an average institutional CGPA of 2.67, with the highest CGPA of 3.52 and the lowest CGPA of 1.25. The standard deviation is 0.54, indicating some variation in the performance of these universities. The range of CGPA scores is 2.27. State Universities have an average institutional CGPA of 2.78, with the highest CGPA of 3.85 and the lowest CGPA of 1.44. The standard deviation is 0.56, suggesting moderate variability in the CGPA scores across these universities. The range of CGPA scores is 2.41. Overall, the total of all universities considered in the table has an average institutional CGPA of 2.91, with the highest CGPA of 3.88 and the lowest CGPA of 1.25. The standard deviation is 0.56, indicating a moderate level of variation in CGPA scores across all universities. The overall range of CGPA scores is 2.63, representing the span between the highest and lowest CGPA values. This analysis provides valuable insights into the academic performance of different types of universities in India and can be useful for further

Table 2 :
Summary of Institutional Cgpa for Different Types of Universities in India

Type of University	Minimum	Maximum	Mean	SD	Range
Central University	2.34	3.61	3.08	0.39	1.27
Deemed University	2.38	3.88	3.32	0.34	1.50
Institution of National Importance	2.57	2.57	2.57		-
State Private University	1.25	3.52	2.67	0.54	2.27
State University	1.44	3.85	2.78	0.56	2.41

research and improvement measures in the higher education system.

Table 3 presents the average CGPA scores of Indian universities concerning seven fundamental evaluation aspects. In terms of Curricular Aspects, Deemed Universities exhibit the highest average CGPA (3.60), indicative of their commendable performance in curricular matters, while State Universities record the lowest average (3.11) in this domain. Regarding Teaching-learning and Evaluation, Deemed Universities achieve the highest average CGPA (3.36), highlighting their effectiveness in instructional methodologies and evaluation practices. Conversely, State Private Universities obtain the lowest average (2.86) in this dimension. Central Universities secure the highest average CGPA (2.76) in Research and Innovations, whereas Deemed Universities hold the leading position with an average CGPA of 2.92 in this aspect. Additionally, Central Universities lead in Infrastructure and Learning Resources with the highest average CGPA (3.51), reflecting their robust infrastructure and learning support. In contrast, State Private Universities show the lowest average (3.03) in this regard. As for Student Support and Progression, Central Universities excel with the highest average CGPA (2.71), indicating their dedication to fostering student advancement. Conversely, State Universities exhibit the lowest average (2.44) in this area. In Governance, Leadership, and Management, Deemed Universities garner the highest average CGPA (3.26), underscoring their effective administrative practices. State Private Universities, on the other hand, attain the lowest average (2.46) in this domain. Regarding Institutional Values and Best Practices, Deemed Universities achieve the highest average CGPA (3.72), signifying their adherence to institutional values and exemplary practices, whereas State Universities display the lowest average (3.20) in this category. Finally, in terms of the Overall Institutional CGPA, Deemed Universities obtain the highest average (3.32) among all types of universities, while State Universities record the lowest average (2.78). The cumulative average CGPA for all universities stands at 2.91.

Figure 7 provides data on the average Institutional CGPA scores of universities visited from the years 2018 to 2022. In 2018, a total of 33 universities were visited, with Karnataka obtaining the highest average CGPA (3.42), while Arunachal Pradesh recorded the lowest average (1.72). Moving to 2019, 28 universities were visited, and Haryana secured the highest average CGPA (3.44). Arunachal Pradesh again had the lowest average (2.13). In 2020, only 4 universities were visited, with Rajasthan obtaining the highest average CGPA (3.00) among the visited universities. In 2021, there was a significant increase in the number of university visits (74). Puducherry had the highest average CGPA (3.58), while Chhattisgarh had the lowest average (2.60). Finally, in 2022, the number of university visits further increased to 95. Goa had the highest average CGPA (3.11), and Chhattisgarh had the lowest average (1.76). The grand total average CGPA for all universities visited from 2018 to 2022 remained relatively stable at 2.91.

Table 3 :
Average Cgpa Scores of Indian Universities Across Evaluation Aspects

Type of University	Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Criteria 6	Criteria 7	Overall CGPA
Central University	3.16	3.23	2.76	3.51	2.71	2.96	3.53	3.08
Deemed University	3.60	3.36	2.92	3.60	3.20	3.26	3.72	3.32
Institution of National Importance	2.30	3.55	1.34	3.27	2.27	2.80	3.27	2.57
State Private University	3.24	2.86	1.91	3.03	2.60	2.46	3.18	2.67
State University	3.11	3.01	2.21	3.13	2.44	2.71	3.20	2.78

Figure 8 presents data pertaining to the number of universities visited and their average Institutional CGPA scores in India from 2018 to 2022, categorized

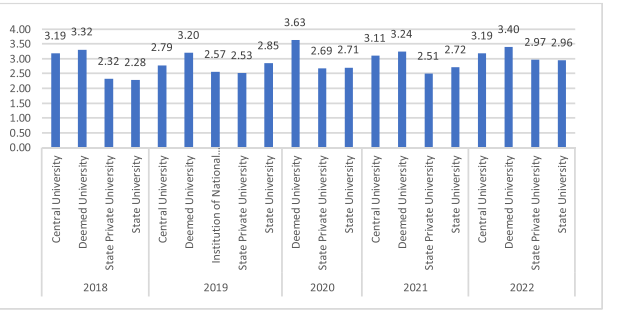

Fig. 7 : Average Institutional CGPA Scores of Visited Categories wise Universities from 2018 to 2022.

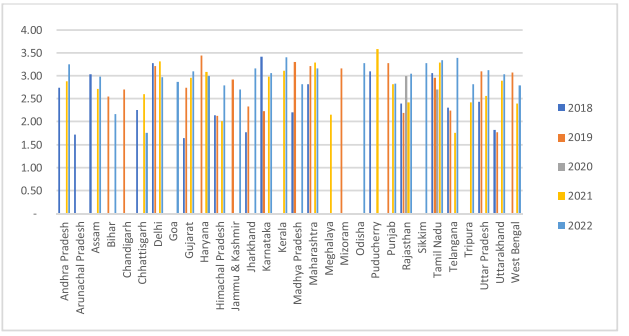

Fig. 8 : Number of Visited Universities and Average Institutional CGPA Scores in India from 2018 to 2022, by States.

by states. In the year 2018, a total of 33 universities were visited across different states. Among these, Karnataka exhibited the highest average Institutional CGPA with a score of 3.42, whereas Gujarat recorded the lowest average with 1.65. Moving on to 2019, a total of 28 universities were visited, and Kerala emerged with the highest average CGPA of 3.11. Conversely, Arunachal Pradesh demonstrated the lowest average score of 1.72. In the subsequent year, 2020, the number of university visits decreased significantly to 4. During this period, Goa displayed the highest average CGPA of 2.87, while Chhattisgarh recorded the lowest with 1.76. The year 2021 witnessed a substantial rise in university visits, totalling 74. Puducherry secured the highest average CGPA at 3.58, whereas Chhattisgarh continued to have the lowest average at 2.60. Finally, in 2022, a total of 95 universities were visited, and Goa once again achieved the highest average CGPA of 3.11. Meanwhile, Arunachal Pradesh persisted with the lowest average CGPA of 1.72. Overall, the grand total average CGPA for all universities visited from 2018 to 2022 was found to be 2.91. The analysis elucidates noteworthy disparities in the average Institutional CGPA scores among different states over the course of these years. Moreover, it sheds light on states that consistently exhibited higher or lower performance levels in their respective educational institutions.

Conclusion

Based on the comprehensive examination of NAAC quality indicators for Indian universities, several key areas of strength and improvement can be identified. These findings have significant implications for policymakers and university administrators in fostering the continuous enhancement of higher education in India.

a) Key Areas of Strength

1. Curricular Aspects: Central Universities and Deemed Universities have shown strength in curricular aspects, obtaining high average CGPA scores. This indicates that these universities have well-designed and updated curricula that meet academic needs and industry demands.

2. Teaching-Learning and Evaluation: Deemed Universities have excelled in teaching-learning and evaluation, suggesting that their pedagogical approaches and evaluation methods are effective in facilitating students' learning and academic performance.

3. Research and Innovations: Central Universities and Deemed Universities have demonstrated strength in research and innovations. This indicates that they have active research programs and a conducive environment for promoting research activities among faculty and students.

4. Infrastructure and Learning Resources: Central Universities lead in this aspect, suggesting that they have invested in modern and well-equipped infrastructure, libraries, and other learning resources, enhancing the overall educational experience for students.

5. Student Support and Progression: Central Universities have shown strength in providing support to students and promoting their progression, ensuring a conducive learning environment and holistic development.

6. Governance, Leadership, and Management: Deemed Universities have performed well in this area, indicating efficient governance and effective leadership that contribute to the overall institutional development.

7. Institutional Values and Best Practices: Deemed Universities have excelled in adhering to institutional values and adopting best practices, highlighting their commitment to quality education and ethical standards.

b) Key Areas of Improvement

1. State Private Universities and State Universities have relatively lower average CGPA scores compared to Central Universities and Deemed

Universities in most indicators. This suggests the need for improvement in various aspects such as teaching-learning, research, infrastructure, and student support.

2. State Universities, in particular, need to focus on enhancing their research and innovation activities to match the performance of Central and Deemed Universities.

c) Implications for Policymakers and University Administrators

1. Targeted Strategies: Policymakers can utilize the data to identify specific areas of improvement for each category of university. They can implement targeted strategies and allocate resources to address the weaknesses identified and build on the strengths of different institutions.

2. Quality Enhancement Measures: University administrators should use the findings to develop quality enhancement measures, such as faculty development programs, research incentives, and infrastructure upgrades, to improve the overall performance of their institutions.

3. Collaboration and Knowledge Sharing: Policymakers and administrators can facilitate collaboration and knowledge sharing among universities, encouraging the exchange of best practices and successful strategies for improvement.

4. Accreditation and Accountability: Policymakers can use the NAAC assessment results to strengthen the accreditation process and accountability mechanisms for universities. Institutions that consistently perform well can be recognized and incentivized, while those with lower performance can be provided with guidance and support to improve.

5. Continuous Evaluation and Feedback: Regular evaluations and feedback mechanisms can be established to monitor the progress of universities and ensure continuous improvement.

6. Focus on Research and Innovation: Policymakers and administrators should prioritize research and innovation by providing resources and incentives to encourage more universities to engage in impactful research activities.

7. Long-Term Vision: Policymakers should have a long-term vision for higher education in India, focusing on sustainable development and quality enhancement to create a globally competitive education system.

In conclusion, the comprehensive examination of NAAC quality indicators provides valuable insights into the strengths and areas of improvement of Indian universities. Policymakers and university administrators can leverage these findings to design effective strategies for fostering continuous enhancement of higher education in India and ensuring the overall quality and relevance of the education system in the country.

d) Future Research Directions

Exploring potential future research directions related to the analysis of NAAC quality indicators offers exciting avenues for investigating the impact of accreditation on various aspects of higher education. One direction could focus on assessing the relationship between accreditation status and student outcomes, such as academic achievement, employability, and satisfaction. Research could examine whether accredited institutions demonstrate higher levels of student success compared to non-accredited ones and explore the mechanisms through which accreditation influences these outcomes. Additionally, investigating the role of faculty development in accreditation processes could be another promising area. This research could explore how faculty training and support initiatives contribute to enhancing teaching quality, research productivity, and institutional effectiveness, ultimately impacting accreditation outcomes. Moreover, studies could examine the perceptions and experiences of stakeholders, including students, faculty, administrators, and employers, regarding the value and effectiveness of accreditation in promoting educational excellence and accountability. A Comparison of NAAC accreditation standards with international accreditation bodies to identify best practices and areas for improvement can be done in future. Assessment of how NAAC accreditation affects the global recognition and ranking of Indian universities can also serve as a basis for future scholarly studies. A study on stakeholders' perspective can be taken up in future like Investigating how accreditation status influences student satisfaction, employability, and overall educational experience. Collecting and analyzing faculty perspectives on the

impact of accreditation on teaching practices, research opportunities, and professional development may also be considered. By addressing these research gaps, scholars can contribute valuable insights to inform accreditation policies, practices, and continuous improvement efforts in higher education.

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