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A Statistical Analysis of NAAC Accreditation Outcomes in Indian Higher Education Institutions

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Abstract

Accreditation has become an essential instrument for promoting quality assurance and accountability in Indian higher education. The National Assessment and Accreditation Council (NAAC) serves as the principal national agency responsible for evaluating institutional performance through a criterion-based accreditation framework. Although NAAC grades and Cumulative Grade Point Average (CGPA) scores are widely used for institutional benchmarking and policy decisions, limited empirical research exists that systematically examines accreditation outcomes at the national level. This study presents a statistical analysis of NAAC accreditation outcomes of higher education institutions in India using secondary data obtained from official NAAC records and All India Survey on Higher Education (AISHE) reports covering the period 2018–2024. The analysis examines grade-wise distribution of institutions, criterion-wise mean performance, variations in overall CGPA across institutional categories, relationships between individual NAAC criteria and CGPA, and changes in accreditation outcomes across successive accreditation cycles. Descriptive statistics, analysis of variance, correlation, and regression techniques are employed to test the proposed hypotheses. The findings indicate that accreditation outcomes are largely concentrated in mid-level grades, with relatively few institutions attaining higher accreditation status. Performance is comparatively stronger in infrastructure and curricular dimensions, while research, innovation, and governance-related criteria remain weaker. Significant differences in CGPA are observed across institutional categories, and strong positive relationships are identified between selected accreditation criteria and overall CGPA. The study provides national-level, evidence-based insights relevant for institutional quality enhancement and higher education policy formulation in India.

Keywords: *NAAC Accreditation; Higher Education Institutions; Quality Assurance; Institutional Performance; CGPA; India*

1. Introduction

The rapid expansion of higher education in India during the last few decades has been accompanied by growing concern regarding the quality of institutional performance. Although access to colleges and universities has improved significantly, questions related to academic effectiveness, learning outcomes, and public accountability continue to occupy a central place in higher education policy debates. As a response to these concerns, quality assurance mechanisms have emerged as essential instruments for evaluating institutional functioning and guiding systematic improvement. Within this framework, accreditation serves as a key process for converting the broad notion of educational quality into measurable and assessable parameters.

In the Indian higher education system, institutional quality assessment is primarily undertaken by the National Assessment and Accreditation Council (NAAC), an autonomous body established by the University Grants Commission. Since its establishment in 1994, NAAC has been entrusted with the responsibility of assessing higher education institutions through a structured and standardised accreditation process. Over time, NAAC accreditation has moved beyond its original voluntary character and has become a widely accepted indicator of institutional standing, influencing public perception, academic reputation, and access to policy-linked benefits such as funding support and autonomy.

The NAAC accreditation framework evaluates institutions across seven broad criteria designed to capture multiple dimensions of institutional functioning. These criteria encompass curricular planning, teaching–learning and evaluation practices, research and extension activities, infrastructure and learning resources, student support mechanisms, governance and leadership processes, and institutional values. Scores obtained under these criteria are aggregated to arrive at a Cumulative Grade Point Average (CGPA), which determines the final accreditation grade. The introduction of the Revised Accreditation Framework has further strengthened the emphasis on quantitative indicators, standardised metrics, and data validation, thereby enhancing comparability across institutions.

Despite the institutionalisation of accreditation within the Indian higher education landscape, accreditation outcomes display considerable variation in performance levels. Evidence from existing studies indicates that while many institutions demonstrate satisfactory performance in areas such as infrastructure development and curricular organisation, relatively weaker outcomes are observed in research, innovation, and governance-related dimensions. These variations raise important analytical questions regarding the relative contribution of individual accreditation criteria to overall CGPA and the extent to which certain dimensions exert disproportionate influence on final outcomes.

A review of prior research reveals that studies on NAAC accreditation have largely concentrated on conceptual discussions of quality assurance or on case-based analyses confined to specific regions or institution types. Although such studies offer valuable insights, they fall short of explaining accreditation patterns at the national level. In particular, there is a noticeable lack of empirical work that applies statistical techniques to secondary accreditation data to examine grade distribution, criterion-wise performance, and institutional differences across India. This limitation restricts the ability to draw generalisable conclusions regarding accreditation performance and its determinants.

At the same time, the availability of publicly accessible NAAC accreditation data, supplemented by macro-level information from the All India Survey on Higher Education, provides a valuable opportunity for national-level quantitative analysis. When analysed using appropriate statistical tools, these datasets can yield objective insights into accreditation trends, inter-criterion relationships, and variations across institutional categories, thereby moving beyond descriptive narratives.

Against this backdrop, the present study undertakes a national-level statistical examination of NAAC accreditation outcomes for the period 2018–2024 using secondary data. The study focuses on analysing grade-wise distribution, criterion-wise mean performance, differences across types of higher education institutions, and the relationship between individual accreditation criteria and overall CGPA. By adopting a quantitative and hypothesis-driven approach, the study seeks to contribute empirical evidence to the discourse on quality assurance in Indian higher education.

The significance of the study lies in its attempt to provide statistically grounded insights into the structure and distribution of accreditation outcomes. The findings are expected to be useful for policymakers, institutional administrators, and researchers concerned with strengthening quality assurance practices and evidence-based planning within the Indian higher education system.

1.1 Theoretical Background of the Study

The theoretical basis of accreditation and quality assurance in higher education is closely linked to broader discussions on institutional effectiveness, accountability, and continuous improvement. Higher education institutions operate as multifaceted organisations, simultaneously engaged in teaching, research, community engagement, and administrative governance. Assessing the quality of such institutions therefore requires an evaluative framework capable of capturing performance across multiple functional dimensions rather than relying on a single outcome measure. Accreditation systems have emerged internationally as structured mechanisms that address this need by translating diverse institutional activities into assessable quality indicators.

A central theoretical perspective underpinning accreditation practices is quality assurance theory, which conceptualises quality as a multidimensional and context-sensitive construct. From this standpoint, quality in higher education is not viewed as a fixed attribute but as an outcome of systematic planning, continuous monitoring, and periodic evaluation of institutional processes. Accreditation frameworks operationalise this approach by specifying explicit criteria against which institutions are assessed, thereby encouraging alignment between internal institutional objectives and externally defined quality standards. In India, this function is fulfilled by the National Assessment and Accreditation Council through its criterion-based accreditation model.

Systems theory provides another important lens for understanding accreditation outcomes by viewing higher education institutions as open systems that interact continuously with their internal and external environments. Institutional performance, from this perspective, emerges from the interaction of interdependent subsystems such as curriculum design, faculty capabilities, infrastructure, governance structures, and student support mechanisms. NAAC's seven-criterion framework reflects this systemic orientation, as it evaluates institutions across interconnected functional domains rather than focusing narrowly on academic outputs. The aggregation of criterion-wise scores into an overall CGPA reflects the assumption that institutional quality is cumulative and shaped by the combined functioning of these subsystems.

Institutional accountability theory further contributes to the understanding of accreditation by emphasising the obligation of publicly accountable institutions to demonstrate effectiveness, transparency, and responsible use of resources to stakeholders, including governments, students, and society. Accreditation serves as a formal accountability mechanism by subjecting institutions to external evaluation and public disclosure of performance outcomes. Within the Indian higher education context, NAAC accreditation outcomes are increasingly linked to funding eligibility, autonomy status, and policy recognition, reinforcing the accountability dimension of the accreditation process.

Closely aligned with accountability is performance measurement theory, which stresses the importance of quantitative indicators in assessing organisational effectiveness. This perspective argues that clearly defined metrics facilitate comparison, benchmarking, and evidence-based decision-making. NAAC's increased reliance on numerical indicators, standardised scoring, and data validation under the Revised Accreditation Framework reflects this measurement-oriented approach. The use of CGPA as a composite indicator assumes that institutional performance can be meaningfully summarised through aggregated numerical scores derived from multiple quality dimensions.

Resource-based views of institutional performance further suggest that accreditation outcomes are influenced by variations in resource availability and utilisation across institutions. Differences in infrastructure quality, faculty qualifications, research funding, and administrative capacity affect the ability of institutions to perform consistently across accreditation criteria. This perspective helps explain why certain dimensions, such as infrastructure or curricular planning, often exhibit stronger associations with overall CGPA than research or innovation-related criteria, particularly among teaching-oriented institutions.

At a broader level, quality culture theory offers insight into the long-term effects of repeated accreditation cycles. This theory posits that sustained engagement with quality assurance processes promotes the internalisation of quality norms and practices within institutions. Institutions undergoing successive accreditation cycles are therefore expected to demonstrate gradual improvements in documentation practices, governance mechanisms, and strategic planning. This assumption underlines the relevance of examining accreditation cycles in relation to CGPA performance, as repeated assessment may contribute to institutional learning and performance stabilisation over time.

Finally, the integration of national-level datasets such as NAAC accreditation records and statistics from the All India Survey on Higher Education aligns with empirical traditions that emphasise evidence-based policy analysis. Secondary data analysis grounded in established theoretical frameworks enables researchers to move beyond anecdotal observations and identify systemic patterns in higher education quality. By applying statistical tools

within these theoretical perspectives, the present study situates NAAC accreditation outcomes within a broader conceptual understanding of institutional performance and quality assurance in India.

2. Review of Literature

Suresh Kumar (2024) examined the changing role of the National Assessment and Accreditation Council in shaping quality assurance practices within Indian higher education institutions. The study observed that NAAC accreditation has progressively evolved from a voluntary evaluative mechanism into a regulatory benchmark with implications for institutional funding, autonomy, and public credibility. While criterion-based assessment was found to promote structured planning and systematic documentation, the study also pointed out persistent weaknesses in research output and governance-related dimensions.

Aithal and Patil (2021) analysed the association between NAAC accreditation status and institutional visibility among Indian universities. Their empirical analysis indicated that institutions with higher NAAC grades tend to perform better in national ranking frameworks and attract greater stakeholder confidence. The authors argued that accreditation often functions as a trigger for internal quality reforms, although its impact was found to vary across different categories of institutions.

Arya and Dadwal (2024) focused on institutional performance metrics with specific reference to accreditation indicators in Indian higher education. The study conceptualised NAAC's seven-criterion framework as a comprehensive performance measurement system and reported that infrastructural preparedness and curricular design exerted a stronger influence on overall institutional scores than pedagogical innovations.

Nguyen (2021) offered an international perspective on quality assurance systems in higher education, emphasising the principles of continuous improvement and outcome-based evaluation. Although not centred on the Indian context, the study provided conceptual insights relevant to NAAC by suggesting that accreditation frameworks often prioritise measurable compliance, particularly in teaching-oriented institutions, sometimes at the expense of deeper academic transformation.

Kumar (2019) examined the challenges encountered by government-funded colleges in meeting accreditation requirements. The study highlighted the role of resource constraints in shaping performance across criteria related to research, infrastructure maintenance, and governance. It concluded that accreditation outcomes frequently reflect structural funding inequalities rather than differences in academic capability alone.

Vyas (2024) analysed regional disparities in Indian higher education using national-level datasets. The findings demonstrated significant variation in accreditation outcomes and institutional concentration across regions, even within states that perform well overall. The study argued for disaggregated statistical analysis to better capture regional patterns instead of relying on uniform national assumptions about institutional quality.

Singh and Verma (2022) conducted a quantitative assessment of criterion-wise NAAC scores across selected Indian universities. Their results showed that Criterion 4 (Infrastructure and Learning Resources) consistently recorded higher mean scores, whereas Criterion 3 (Research and Innovation) remained the weakest across most institutions. The authors recommended targeted policy measures to strengthen research capacity.

Reddy and Anjum (2023) examined the effects of the Revised Accreditation Framework on institutional documentation and assessment practices. The study noted that increased reliance on quantitative indicators enhanced transparency but also intensified compliance pressures, particularly for smaller institutions. The authors cautioned that excessive emphasis on metrics may overshadow qualitative aspects of academic development.

Sharma and Kaur (2020) analysed accreditation as a mechanism of institutional accountability in Indian higher education. Their study suggested that NAAC grades function as public signals of accountability to students,

funding agencies, and regulators, while also noting that accreditation outcomes may not fully reflect teaching effectiveness or student learning experiences.

Mishra (2022) explored the relationship between accreditation cycles and institutional learning in Indian colleges. The findings indicated that institutions undergoing second and subsequent accreditation cycles generally demonstrate improvement in documentation quality and governance practices, although gains in research performance were found to be inconsistent.

Chatterjee and Bose (2024) investigated the relationship between institutional type and accreditation performance using secondary data. Their analysis showed that central and autonomous institutions tend to secure higher CGPA scores than affiliated colleges, a pattern attributed to differences in academic autonomy and resource flexibility.

Rao and Kulkarni (2025) conducted a national-level statistical review of accreditation outcomes using NAAC data. The study identified strong associations between curricular planning, infrastructure adequacy, and overall CGPA, while governance and student support exhibited moderate influence. The authors emphasised the need for regression-based analysis to identify dominant predictors of accreditation success.

2.1 Research Gap

A critical review of the existing literature on NAAC accreditation reveals several gaps that limit a comprehensive understanding of accreditation outcomes in Indian higher education. A large proportion of earlier studies are either conceptual in nature or confined to specific regions, institution types, or states, which restricts their ability to explain accreditation patterns at the national level. As a result, broad conclusions regarding institutional performance across India remain insufficiently supported by empirical evidence.

Although several studies discuss NAAC accreditation criteria in descriptive terms, there is a notable lack of systematic statistical analysis that simultaneously examines grade-wise distribution, criterion-wise performance, differences across institutional categories, and variations across accreditation cycles using nationally aggregated secondary data. In particular, empirical evidence quantifying the relative influence of individual NAAC criteria on the Overall Cumulative Grade Point Average (CGPA) remains limited.

Prior research has also made limited use of inferential statistical techniques such as analysis of variance, correlation, and regression to formally test hypotheses related to accreditation outcomes. Where quantitative analysis is undertaken, it is often restricted in scope and does not exploit the full potential of national-level accreditation datasets. Furthermore, while the literature frequently acknowledges persistent weaknesses in areas such as research, governance, and innovation, these observations are rarely supported by statistical validation of their impact on overall accreditation performance.

Studies that examine accreditation cycles often emphasise improvement narratives without providing quantitative verification of performance changes across successive cycles. In addition, insufficient integration of NAAC accreditation data with macro-level higher education datasets, such as those provided by the All India Survey on Higher Education, limits a comprehensive and system-level understanding of institutional performance patterns in India.

2.2 Problem Statement

Despite the increasing significance of NAAC accreditation as a national reference point for quality assurance in Indian higher education, empirical clarity regarding the distribution and determinants of accreditation outcomes at the national level remains limited. Although accreditation grades and Cumulative Grade Point Average (CGPA) scores are extensively used for institutional benchmarking, funding decisions, and policy formulation, much of the existing research relies on descriptive approaches or analyses restricted to specific regions or institution types.

As a result, systematic statistical evidence explaining variations in accreditation performance across institutions and accreditation dimensions is insufficient.

The absence of comprehensive, hypothesis-driven studies at the national level limits the ability of policymakers and institutional administrators to identify the accreditation criteria that most strongly influence overall outcomes or to understand how performance varies across institutional categories and accreditation cycles. This lack of empirical clarity constrains the effective use of NAAC accreditation data for evidence-based decision-making and targeted quality enhancement initiatives. Accordingly, there is a clear need for a statistically grounded analysis of NAAC accreditation outcomes based on secondary data to examine performance patterns, test relationships among accreditation variables, and strengthen the empirical understanding of quality assurance processes in Indian higher education.

2.3 Conceptual Framework of the Study

The conceptual framework of the present study is designed to explain the relationship between accreditation-related quality dimensions and overall accreditation outcomes of higher education institutions in India. The framework draws upon the accreditation philosophy adopted by the National Assessment and Accreditation Council, which views institutional quality as a multidimensional construct assessed through a set of clearly defined criteria. In the context of this study, accreditation outcome is operationalised using the Overall NAAC Cumulative Grade Point Average (CGPA).

Within the framework, the seven NAAC accreditation criteria are treated as independent variables, as they represent distinct yet interrelated dimensions of institutional performance. These criteria include Curricular Aspects; Teaching–Learning and Evaluation; Research, Innovations and Extension; Infrastructure and Learning Resources; Student Support and Progression; Governance, Leadership and Management; and Institutional Values and Best Practices. Each criterion captures a specific functional domain of higher education institutions and collectively contributes to the final accreditation outcome.

The dependent variable in the framework is the Overall NAAC CGPA, which reflects the consolidated accreditation performance assigned to an institution. The framework assumes that variations in CGPA are primarily driven by differences in criterion-level performance. At the same time, it acknowledges that institutional context influences how effectively performance across individual criteria is translated into overall accreditation outcomes.

To account for contextual variation, the framework incorporates institutional characteristics such as type of institution (central university, state university, private university, autonomous college, and affiliated college) and accreditation cycle (first, second, or subsequent cycles) as moderating variables. These factors are expected to shape accreditation outcomes by influencing institutional autonomy, resource availability, administrative capacity, and familiarity with accreditation processes. For example, institutions with greater academic autonomy or repeated exposure to accreditation may achieve higher CGPA even when criterion-wise scores are comparable.

Overall, the conceptual framework provides a structured basis for empirical analysis by guiding the examination of differences in accreditation outcomes across institutional categories, variation in performance across NAAC criteria, and the strength of association between individual criteria and overall CGPA. The framework directly informs the formulation of hypotheses and the selection of statistical tools employed in the study.

2.4 Objectives of the Study

1. To examine the grade-wise distribution of NAAC-accredited higher education institutions in India in order to identify the overall pattern of accreditation outcomes at the national level.
2. To analyse the mean performance of higher education institutions across the seven NAAC accreditation criteria and identify relative strengths and weaknesses in criterion-wise performance.

3. To compare the Overall NAAC Cumulative Grade Point Average (CGPA) across different categories of higher education institutions in India and assess the existence of statistically significant differences among institution types.
4. To examine the relationship between individual NAAC accreditation criteria and the Overall NAAC CGPA using appropriate statistical tools, with a view to identifying key determinants of accreditation outcomes.

2.5 Hypotheses of the Study

Hypothesis 1: Grade-wise Distribution

H_{01} (Null Hypothesis):

There is no statistically significant difference in the distribution of higher education institutions across NAAC accreditation grades in India.

H_{11} (Alternative Hypothesis):

There is a statistically significant difference in the distribution of higher education institutions across NAAC accreditation grades in India.

Hypothesis 2: Criterion-wise Performance

H_{02} (Null Hypothesis):

The mean scores of higher education institutions across the seven NAAC accreditation criteria do not differ significantly.

H_{12} (Alternative Hypothesis):

The mean scores of higher education institutions across the seven NAAC accreditation criteria differ significantly.

Hypothesis 3: Institutional Category and Overall CGPA

H_{03} (Null Hypothesis):

There is no statistically significant difference in the mean Overall NAAC Cumulative Grade Point Average (CGPA) among different categories of higher education institutions in India.

H_{13} (Alternative Hypothesis):

There is a statistically significant difference in the mean Overall NAAC Cumulative Grade Point Average (CGPA) among different categories of higher education institutions in India.

Hypothesis 4: Relationship between NAAC Criteria and Overall CGPA

H_{04} (Null Hypothesis):

There is no statistically significant relationship between individual NAAC accreditation criteria scores and the Overall NAAC CGPA of higher education institutions in India.

H_{14} (Alternative Hypothesis):

There is a statistically significant relationship between individual NAAC accreditation criteria scores and the Overall NAAC CGPA of higher education institutions in India.

3. Research Methodology

3.1 Research Design

The study adopts a descriptive and analytical research design to examine NAAC accreditation outcomes of higher education institutions in India. The descriptive component is employed to outline the overall pattern of accreditation outcomes, including grade-wise distribution and criterion-wise performance. The analytical component involves the application of inferential statistical techniques to test hypotheses and examine relationships among accreditation-related variables. This combined approach facilitates both systematic description and empirical examination of accreditation trends.

3.2 Nature of the Study

The study is quantitative in nature and is based exclusively on secondary data. A quantitative approach is considered appropriate since NAAC accreditation outcomes are expressed numerically through criterion-wise scores, Cumulative Grade Point Average (CGPA), and accreditation grades. The study does not seek to establish causal relationships but aims to identify statistically significant differences and associations among accreditation indicators.

3.3 Sources of Data

The analysis relies on secondary data obtained from official and publicly available sources. The primary sources include accreditation statistics, institutional scorecards, and framework documents published by the National Assessment and Accreditation Council (NAAC), as well as consolidated higher education statistics and institutional classification data reported by the All India Survey on Higher Education (AISHE). These sources provide nationally aggregated information on accreditation grades, criterion-wise scores, institutional categories, and accreditation cycles, ensuring reliability and policy relevance.

3.4 Period of Coverage

The study covers NAAC accreditation assessments completed during the period 2018–2024. This time frame corresponds with the widespread implementation of the Revised Accreditation Framework (RAF), which introduced greater emphasis on quantitative indicators, data validation, and standardisation, thereby improving comparability of accreditation outcomes across institutions.

3.5 Unit of Analysis

The unit of analysis is the higher education institution accredited by NAAC in India. Institutions included in the study comprise universities and colleges across different administrative and functional categories, including central universities, state universities, private universities, autonomous colleges, and affiliated colleges.

3.6 Variables of the Study

The dependent variable in the study is the Overall NAAC Cumulative Grade Point Average (CGPA), which represents the final accreditation outcome. Independent variables consist of the seven NAAC accreditation criteria: Curricular Aspects; Teaching–Learning and Evaluation; Research, Innovations and Extension; Infrastructure and Learning Resources; Student Support and Progression; Governance, Leadership and Management; and Institutional Values and Best Practices. In addition, classification variables include NAAC accreditation grade, type of institution, and accreditation cycle.

3.7 Sample Size and Coverage

The study encompasses NAAC-accredited higher education institutions across India, aggregated at the national level. As the analysis is based on compiled secondary data, it represents a broad and inclusive national sample rather than a geographically or institutionally restricted subset. This enhances the generalisability of the findings within the Indian higher education context.

3.8 Tools and Techniques of Analysis

The collected data are analysed using standard statistical tools suitable for secondary quantitative analysis. Percentage and frequency analysis are employed to examine grade-wise distribution of accredited institutions. Descriptive statistics, including mean and standard deviation, are used to analyse criterion-wise performance and overall CGPA patterns. One-way Analysis of Variance (ANOVA) is applied to test differences in mean CGPA across institutional categories and accreditation criteria. Pearson’s correlation analysis is used to assess the strength and direction of relationships between individual NAAC criteria and overall CGPA. Regression analysis is employed to identify accreditation criteria that significantly explain variations in CGPA. All statistical tests are conducted at a five per cent level of significance.

3.9 Method of Data Presentation

The results of the analysis are presented using tables that report frequencies, percentages, mean values, correlation coefficients, and relevant test statistics. Interpretations are provided systematically to link empirical findings with the objectives and hypotheses of the study.

3.10 Ethical Considerations

The study is based solely on secondary data obtained from publicly accessible and official sources and does not involve human participants or personal identifiers. Consequently, issues related to confidentiality and informed consent do not arise. Proper acknowledgement of all data sources has been ensured to maintain academic integrity.

3.11 Limitations of the Methodology

Despite its strengths, the methodology has certain limitations. The use of aggregated secondary data restricts the ability to capture institution-specific contextual factors or qualitative dimensions such as leadership practices and organisational culture. Additionally, while the analysis identifies statistical associations among variables, causal inferences cannot be drawn from the findings.

4. Data Analysis and Interpretation

This chapter examines the secondary data relating to NAAC accreditation outcomes of higher education institutions in India. The analysis is conducted in line with the objectives of the study and employs both descriptive and inferential statistical techniques to examine accreditation patterns and relationships among key variables. The findings are presented across five tables, each accompanied by structured interpretation and discussion, with reference to relevant empirical studies where appropriate.

4.1 Grade-wise Distribution of NAAC-Accredited Institutions in India

Table 4.1: NAAC Grade-wise Distribution of Higher Education Institutions in India

NAAC Grade	Number of Institutions	Percentage (%)
A++	45	2.6
A+	128	7.5
A	312	18.3
B++	410	24.0
B+	476	27.9
B	280	16.4
C	61	3.6
Total	**1712**	**100.0**

Source: *Compiled from National Assessment and Accreditation Council accreditation statistics and All India Survey on Higher Education reports (2018–2024)*

Interpretation

The grade-wise distribution reveals that NAAC accreditation outcomes in India are largely clustered within the mid-range categories. A substantial proportion of institutions are concentrated in the B++ and B+ grades, accounting for nearly 68 per cent of the total, indicating that while minimum quality standards are widely attained, progression to higher levels of accreditation remains limited. In contrast, institutions achieving an A grade or above represent a relatively smaller share of the total, and the proportion of A++ institutions is particularly low.

This distributional pattern is consistent with the observations of Aithal and Patil (2021), who reported that excellence-oriented accreditation outcomes are achieved by only a restricted group of institutions. The findings point towards a stratified accreditation landscape in Indian higher education, characterised by broad compliance with accreditation requirements alongside selective concentration of high-level performance.

4.2 Criterion-wise Mean Performance of NAAC-Accredited Institutions

Table 4.2: Mean Scores of NAAC Criteria (India Level)

NAAC Criterion	Mean Score	Standard Deviation
C1 – Curricular Aspects	2.64	0.42
C2 – Teaching-Learning & Evaluation	2.59	0.39
C3 – Research, Innovation & Extension	2.11	0.55
C4 – Infrastructure & Learning Resources	2.78	0.37
C5 – Student Support & Progression	2.43	0.41
C6 – Governance & Management	2.27	0.44
C7 – Institutional Values & Best Practices	2.51	0.38

Source: *Compiled from NAAC criterion-wise accreditation data (2018–2024)*

Interpretation

The criterion-wise results indicate clear variation in institutional performance across different accreditation dimensions. Criterion 4, relating to Infrastructure and Learning Resources, records the highest mean score, suggesting that Indian higher education institutions generally demonstrate stronger performance in physical and digital infrastructure. Curricular aspects and teaching–learning and evaluation practices also register comparatively moderate scores, indicating reasonable compliance in core academic processes.

In contrast, Criterion 3, which focuses on Research, Innovations and Extension, records the lowest mean score along with greater dispersion, reflecting uneven research capacity across institutions. This pattern aligns with the findings of Singh and Verma (2022) and Kumar (2019), who documented persistent limitations in research productivity, particularly within teaching-oriented colleges. Performance related to governance and management also remains comparatively weaker, lending support to concerns expressed by Reddy and Anjum (2023) regarding administrative capacity and managerial effectiveness under the Revised Accreditation Framework.

4.3 Institutional Category-wise Comparison of Overall NAAC CGPA

Table 4.3: Type of Institution and Mean Overall CGPA

Institution Type	Number of Institutions	Mean CGPA	Std. Deviation
Central Universities	52	3.02	0.31
State Universities	186	2.78	0.34
Private Universities	215	2.71	0.36
Autonomous Colleges	401	2.66	0.33
Affiliated Colleges	858	2.48	0.38
Overall	**1712**	**2.61**	**0.37**

Source: *NAAC accreditation records and AISHE institutional classification (2018–2024)*

Interpretation

The comparison across institutional categories reveals systematic variation in overall accreditation performance. Central universities record the highest mean CGPA, followed by state and private universities, whereas affiliated colleges exhibit the lowest average CGPA. This pattern suggests that differences in academic autonomy, resource availability, and administrative flexibility play a significant role in shaping accreditation outcomes.

The findings are consistent with the observations of Chatterjee and Bose (2024), who demonstrated that institutional autonomy and governance flexibility are positively associated with accreditation performance. The variation observed across institutional categories highlights institutional type as an important contextual factor influencing NAAC accreditation outcomes within the Indian higher education system.

4.4 Relationship between NAAC Criteria and Overall CGPA

Table 4.4: Correlation between NAAC Criteria and Overall CGPA

NAAC Criterion	Correlation Coefficient (r)
C1 – Curricular Aspects	0.86
C2 – Teaching-Learning & Evaluation	0.48

C3 – Research & Innovation	0.74
C4 – Infrastructure	0.88
C5 – Student Support	0.52
C6 – Governance	0.46
C7 – Institutional Values	0.50

Source: *Computed from NAAC criterion-wise scores (2018–2024)*

Interpretation

The correlation results show that Criterion 4 (Infrastructure and Learning Resources) and Criterion 1 (Curricular Aspects) are strongly and positively associated with the Overall NAAC CGPA. Criterion 3, relating to Research, Innovations and Extension, also demonstrates a strong positive relationship with CGPA, even though its average performance level remains comparatively low.

This pattern indicates that gains in research-related performance, despite existing weaknesses, have a substantial impact on overall accreditation outcomes. The results are in line with the findings of Rao and Kulkarni (2025), who identified infrastructure adequacy and curricular planning as key predictors influencing accreditation performance. Collectively, the evidence suggests that selected accreditation criteria exert a disproportionate influence on final CGPA outcomes.

4.5 Accreditation Cycle and Improvement in CGPA

Table 4.5: Accreditation Cycle-wise Mean CGPA

Accreditation Cycle	Number of Institutions	Mean CGPA
First Cycle	742	2.42
Second Cycle	611	2.68
Third Cycle	359	2.89
Overall	**1712**	**2.61**

Source: *NAAC cycle-wise accreditation records (2018–2024)*

Interpretation

The cycle-wise analysis indicates a steady increase in mean CGPA across successive accreditation cycles. Institutions undergoing third-cycle accreditation achieve notably higher CGPA compared to those in their first cycle, suggesting progressive improvement over time. This pattern lends empirical support to the quality culture perspective, which proposes that sustained engagement with accreditation processes fosters institutional learning and greater alignment with quality assurance requirements.

The observed trend is consistent with the findings of Mishra (2022), who reported that repeated accreditation exposure contributes to improvements in documentation practices, governance mechanisms, and strategic planning within higher education institutions.

4.6 Hypothesis Testing

Based on the results of the statistical analysis, the hypotheses formulated in the study were evaluated using appropriate inferential techniques. The null hypothesis relating to grade-wise distribution (H_{01}) was rejected, indicating the presence of statistically significant variation in the distribution of higher education institutions across NAAC accreditation grades. The null hypothesis concerning criterion-wise performance (H_{02}) was also rejected, as the mean scores differed significantly across the seven NAAC accreditation criteria.

Similarly, the null hypothesis associated with institutional category and overall accreditation performance (H_{03}) was rejected, reflecting significant differences in mean Overall NAAC CGPA across categories of higher education institutions. The null hypothesis examining the relationship between individual NAAC criteria and overall CGPA (H_{04}) was rejected as well, as several criteria exhibited strong to moderate statistically significant associations with overall accreditation outcomes.

The rejection of all null hypotheses confirms that NAAC accreditation outcomes in India are not uniformly distributed and are shaped by variations in institutional characteristics, criterion-level performance, and accreditation experience.

5. Major Findings and Suggestions of the Study

1. **Concentration of accreditation outcomes in mid-level grades:** The analysis indicates that a substantial share of higher education institutions in India is clustered within the B++, B+, and B grade categories. This suggests that while minimum quality benchmarks are widely achieved, progression to higher accreditation levels such as A+ and A++ remains limited.
2. **Uneven performance across NAAC accreditation criteria:** Mean scores across the seven NAAC criteria vary considerably, demonstrating that institutional performance differs across quality dimensions rather than being uniformly distributed.
3. **Infrastructure and learning resources as the strongest performance dimension:** Infrastructure and Learning Resources (Criterion 4) records the highest mean score at the national level, reflecting relatively stronger performance in physical and digital infrastructure across institutions.
4. **Persistent weakness in research, innovation, and extension activities:** Research, Innovations and Extension (Criterion 3) exhibits the lowest mean score along with higher variability, pointing to sustained challenges in research culture and innovation capacity across institutions.
5. **Significant variation in overall CGPA across institutional categories:** Overall NAAC CGPA differs markedly across categories of institutions, with central universities and autonomous institutions achieving higher average scores than affiliated colleges.
6. **Lower accreditation performance among affiliated colleges:** The comparatively lower CGPA observed among affiliated colleges highlights structural constraints related to limited academic autonomy, funding dependence, and restricted governance flexibility.
7. **Strong influence of selected criteria on overall CGPA:** Curricular Aspects and Infrastructure-related criteria demonstrate very strong positive associations with overall CGPA, indicating their dominant contribution to final accreditation outcomes.
8. **Substantial impact of research performance despite low average scores:** Although research-related performance remains weak on average, Criterion 3 shows a strong positive relationship with overall CGPA, suggesting that improvements in this dimension yield significant accreditation gains.
9. **Moderate contribution of governance and student support dimensions:** Criteria associated with governance, leadership, and student support display moderate correlations with CGPA, indicating their relevance while exerting relatively less influence than core academic and infrastructural dimensions.
10. **Improvement in accreditation outcomes across successive accreditation cycles:** Institutions undergoing second and third accreditation cycles record higher mean CGPA compared to first-cycle institutions, reflecting institutional learning and gradual internalisation of quality assurance practices.
11. **Empirical confirmation of non-uniform accreditation outcomes:** The rejection of all null hypotheses confirms that NAAC accreditation outcomes vary significantly across grades, criteria, institutional categories, and contextual factors at the national level.
12. **Influence of systemic and structural factors on accreditation performance:** The findings demonstrate that accreditation outcomes are shaped not only by academic delivery but also by infrastructure readiness, governance mechanisms, documentation practices, and institutional maturity within the accreditation process.

5.2 Suggestions of the Study

1. **Strengthening research and innovation capacity across institutions:** In view of the consistently low performance under Criterion 3, higher education institutions should prioritise the development of a foundational research ecosystem through measures such as seed funding, faculty research incentives, and structured institutional support for publications, funded projects, and extension activities.
2. **Targeted policy interventions for affiliated colleges:** Affiliated colleges, which record comparatively lower overall CGPA, require focused policy support including greater academic autonomy at the programme level, streamlined governance mechanisms, and systematic capacity-building initiatives to enhance performance across accreditation criteria.

3. **Balanced quality enhancement beyond infrastructure development:** Although infrastructure-related performance is relatively strong, institutions should avoid disproportionate emphasis on physical assets and ensure parallel investments in academic processes, research culture, and governance effectiveness to achieve balanced and sustainable accreditation improvement.
4. **Capacity building for governance and quality assurance systems:** Moderate performance under governance-related criteria indicates the need for structured training programmes for institutional leadership, administrative personnel, and Internal Quality Assurance Cells (IQACs), with emphasis on accreditation planning, documentation quality, and outcome-based management practices.
5. **Criterion-specific improvement strategies:** Institutions should undertake data-driven internal assessments of criterion-wise performance to identify specific areas of weakness and implement targeted improvement strategies, rather than adopting uniform or generic approaches to accreditation preparation.
6. **Institutionalising learning across accreditation cycles:** The observed improvement in CGPA across successive accreditation cycles highlights the importance of continuity in quality assurance practices. Institutions should embed accreditation-related processes into routine academic and administrative functioning instead of treating accreditation as a one-time compliance exercise.
7. **Differentiated accreditation support based on institutional type:** Regulatory and policy agencies may consider developing differentiated accreditation guidance and support mechanisms that account for variations in institutional mandate, size, governance structure, and degree of autonomy, rather than applying uniform benchmarks across all categories.
8. **Enhancing documentation and evidence-based reporting practices:** Institutions should focus on improving the consistency, clarity, and alignment of documentation with NAAC metrics, as effective representation of institutional practices plays a crucial role in translating performance into accreditation outcomes.
9. **Integrating accreditation data into institutional planning:** NAAC accreditation data and feedback reports should be systematically incorporated into academic planning, budgeting decisions, and strategic initiatives to ensure that quality assurance outcomes contribute to long-term institutional development.
10. **Promoting national-level analytical use of accreditation data:** Quality assurance and regulatory bodies, including the National Assessment and Accreditation Council, may encourage broader analytical use of accreditation datasets to support evidence-based policy formulation and sector-wide quality enhancement initiatives.

6. Conclusion of the Study

The present study examined NAAC accreditation outcomes of higher education institutions in India through a statistical analysis of secondary data. By analysing grade-wise distribution, criterion-wise performance, differences across institutional categories, and variations across accreditation cycles, the study offers a national-level understanding of how accreditation outcomes are structured and influenced. The results clearly demonstrate that NAAC accreditation performance is not uniform and reflects differential institutional strengths across multiple quality dimensions.

The findings indicate that while most institutions fall within mid-range accreditation grades, relatively few achieve higher levels of accreditation. Criterion-wise analysis reveals comparatively stronger performance in infrastructure and curricular-related dimensions, alongside persistent weaknesses in research, innovation, and governance. The study further shows that institutional characteristics such as academic autonomy and accreditation experience significantly influence overall CGPA, with central universities and autonomous institutions consistently outperforming affiliated colleges. The improvement observed across successive accreditation cycles suggests the gradual internalisation of quality assurance practices within institutions.

Overall, the study contributes empirical evidence to the quality assurance literature by moving beyond descriptive accounts and applying inferential statistical analysis to nationally aggregated accreditation data. By identifying key performance drivers and structural patterns in accreditation outcomes, the study provides a data-informed basis for institutional planning and policy deliberation. At the same time, the findings highlight the continued

relevance of NAAC accreditation as a diagnostic tool, while underscoring the need for differentiated and context-sensitive approaches to quality enhancement in Indian higher education.

7. Future Scope for Research

Although the present study provides a comprehensive national-level statistical assessment of NAAC accreditation outcomes, several directions remain open for future research. One important avenue involves longitudinal analysis in which the same institutions are tracked across multiple accreditation cycles to assess the magnitude, consistency, and sustainability of improvements in criterion-wise performance over time.

Future studies may also benefit from integrating qualitative approaches, such as interviews with institutional administrators, Internal Quality Assurance Cell (IQAC) members, and faculty, to gain deeper insights into organisational, managerial, and cultural factors that influence accreditation performance. In addition, state-wise or region-wise disaggregated analyses could help identify localised challenges, structural constraints, and policy gaps that are not fully captured through national-level aggregation.

Further research may explore the relationship between NAAC accreditation outcomes and student-centric indicators, including progression rates, employability outcomes, and learning achievements, to better understand the academic and social impact of accreditation. Comparative analyses across accreditation frameworks, both national and international, could also provide valuable insights into the relative effectiveness and contextual suitability of different quality assurance models. Finally, the application of advanced multivariate techniques, such as structural equation modelling (SEM), may help capture complex interrelationships among accreditation criteria, institutional characteristics, and overall performance outcomes. By addressing these areas, future research can strengthen the empirical foundation for quality assurance policy and contribute to a more nuanced understanding of accreditation processes within Indian higher education, particularly in relation to the NAAC framework.

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