A Critical Examination of the Relationship between NAAC Accreditation Status and Institutional Performance Metrics in Government Degree Colleges of Karnataka

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Abstract

This study provides a census-based, intra-state analysis of the National Assessment and Accreditation Council (NAAC) performance among all 346 Government First Grade Colleges (GFGCs) in Karnataka to assess institutional quality, regional disparities, and the statistical drivers of success. Utilizing a Descriptive and Analytical Research Design, the study employed secondary data from official NAAC reports, analyzing Overall Cumulative Grade Point Averages (CGPA), grade distributions, mean performance across seven NAAC criteria, and correlation analysis. The major findings confirmed a significant intra-state regional disparity, leading to the rejection of the null hypothesis of equal performance. The Mangaluru region recorded the highest mean Overall CGPA (2.70) and proportion of high-grade institutions, establishing a 0.18-point gap from the lowest-performing regions (Kalburgi and Dharwad, 24/7). Furthermore, the analysis revealed profound systemic weaknesses in Criterion-3 (Research, Innovations and Extension) (mean score: 2.13). Inferential statistics strongly identified Criterion-1 (Curricular Aspects, $r = 0.891$) and Criterion-4 (Infrastructure and Learning Resources, $r = 0.889$) as the most powerful statistical drivers of the final Overall CGPA. The study concludes that GFGCs primarily meet baseline quality standards but require targeted, resource-based policy interventions to address regional imbalances and foster a robust research culture, recommending strategic investments in C-1 and C-4 to maximize accreditation success.

Keywords: *NAAC Accreditation, Institutional Performance, Government Colleges, Regional Disparity, CGPA, Quality Assurance, Karnataka*.

Chapter 1. Introduction

1.1 Context of Higher Education in India and Karnataka

Higher education in India has undergone a transformative period, marked by a rapid expansion of institutions and a growing emphasis on quality assurance. As the nation strives to meet the aspirations of its vast youth population, the focus has shifted from mere access to ensuring educational excellence. In this landscape, government colleges play a pivotal role, serving a significant portion of the student population, particularly from rural and economically disadvantaged backgrounds. These institutions are the backbone of the public education system, tasked with upholding academic standards while operating under unique financial and infrastructural constraints.

Within this national context, the state of Karnataka stands as a key player in the Indian higher education ecosystem. Home to numerous universities, research institutions, and a large network of government degree colleges, the state has a high college density, at 59 colleges per lakh of eligible population, significantly above the national average of 30. This proliferation of colleges, however, presents a challenge: how to ensure a uniform standard of quality across a diverse and geographically dispersed network of institutions. This challenge underscores the critical need for a standardized, external quality assessment mechanism.

1.2 The National Assessment and Accreditation Council (NAAC)

In response to a growing concern over the quality of higher education, the National Assessment and Accreditation Council (NAAC) was established in 1994 as an autonomous body by the University Grants Commission (UGC). Its core mission is to assess and accredit institutions of higher education across India. NAAC's vision is to "make quality the defining element of higher education in India through a combination of self and external quality evaluation, promotion and sustenance initiatives."

The NAAC accreditation process is not merely a bureaucratic formality but a comprehensive, multi-step exercise designed to foster a culture of continuous quality improvement. It is a cyclical process that involves a thorough self-study by the institution, a Data Validation and Verification (DVV) process, a Student Satisfaction Survey (SSS), and a final on-site peer team visit.

The assessment is based on seven key criteria;
1. **Curricular Aspects**
2. **Teaching-Learning and Evaluation**
3. **Research, Innovations and Extension**
4. **Infrastructure and Learning Resources**
5. **Student Support and Progression**
6. **Governance, Leadership and Management**
7. **Institutional Values and Best Practices**

Based on the institution's performance on these criteria, NAAC assigns a Cumulative Grade Point Average (CGPA) and a corresponding letter grade, from A++ to C. This grade serves as a public indicator of an institution's quality and is often a prerequisite for receiving central and state government funding.

1.3 Defining Institutional Performance

While NAAC provides a structured framework for evaluation, the concept of "institutional performance" itself is multifaceted. It goes beyond simple academic results to encompass a holistic view of an institution's effectiveness and its contribution to society. For the purpose of this study, institutional performance is not limited to a single metric but is critically assessed through the lens of the NAAC's seven criteria and the resulting CGPA. This includes an evaluation of:

- ❑ **Academic Quality:** Measured by curricular design, teaching methodologies, and the effectiveness of evaluation processes.
- ❑ **Research Output:** The extent to which an institution fosters a research culture and engages in innovation and community extension activities.
- ❑ **Physical and Digital Infrastructure:** The availability and quality of essential resources like libraries, laboratories, and IT facilities.
- ❑ **Student Support Systems:** The efficacy of services designed to help students, such as career counseling and scholarships.
- ❑ **Governance and Leadership:** The effectiveness of administrative processes, leadership, and financial management.

By using the NAAC CGPA and its constituent scores as a proxy for institutional performance, this study aims to provide an evidence-based assessment of quality.

1.4 Statement of the Problem

NAAC accreditation has become a mandatory and widely accepted quality benchmark for higher education institutions in India. However, its effectiveness and actual impact remain a subject of debate. While the NAAC system is designed to promote quality, its application and outcomes can vary significantly across different institutional types and regions. Government colleges, in particular, face unique challenges related to funding, infrastructure, and human resources, which can directly affect their performance in the accreditation process.

Existing literature often provides a broad overview of NAAC's role but lacks a specific, in-depth analysis of its impact on a targeted population of institutions. There is a discernible research gap in understanding the nuanced relationship between NAAC accreditation status and the performance metrics of government colleges in a specific geographical context. The current study aims to fill this void by conducting a critical assessment of the relationship between NAAC accreditation status and institutional performance metrics in Government Degree Colleges across Karnataka. This research is necessary to move beyond the assumption that accreditation automatically leads to quality improvement. It will empirically examine how well these institutions are performing, identify the key drivers and weaknesses behind their NAAC scores, and reveal if regional disparities exist. By doing so, the study will provide valuable insights for policymakers, educational administrators, and researchers to develop more targeted and effective strategies for enhancing the quality of public higher education in Karnataka and beyond

Chapter 2. Research Objectives

The primary goal of this research is to critically assess the quantitative relationship between the NAAC accreditation status (CGPA) and institutional performance metrics of Government Degree Colleges in Karnataka.

The study aims to achieve the following specific objectives:

1. To analyze the geographical distribution of Government First Grade Colleges (GFGCs) across the six designated regions of Karnataka and to profile their overall NAAC grade classification.

2. To assess and compare the overall NAAC Cumulative Grade Point Average (CGPA) and grading patterns (e.g., percentage of A Grade & Above) among the different regions of Karnataka to identify regional disparities in institutional performance.

3. To examine the mean performance of GFGCs on each of the seven NAAC criteria (C-1 to C-7) across the regions to identify universal strengths and weaknesses and understand how performance varies across different regions.

4. To critically evaluate the degree and nature of the relationship (correlation) between the individual NAAC Criterion CGPA scores and the Overall CGPA of GFGCs, thereby determining the key drivers that have the highest influence on the final accreditation status.

2.1 Scope of the Study

The scope of this research clearly defines the boundaries within which the study is conducted and the conclusions are drawn:

❍ **Institutional Scope (Population):** The study is strictly confined to the Government First Grade Colleges (GFGCs) within the state of Karnataka that have been assessed and accredited by NAAC. The total sample size analyzed is 346 colleges.

❍ **Geographical Scope:** The analysis is restricted to the state of Karnataka, with data segmented and compared across the six administrative regions: Bengaluru, Dharwad, Kalburgi, Mangaluru, Mysore, and Shivamogga.

❍ **Conceptual Scope (Metrics):** Institutional performance is operationalized and measured exclusively using the NAAC CGPA and the scores obtained across the seven NAAC criteria.

2.2 Limitations of the Study

Acknowledging the limitations ensures that the interpretation of the findings remains objective and academically sound:

❖ **Data Type and Reliance:** The research relies exclusively on secondary, quantitative data derived from NAAC scores and institutional records. As such, it cannot incorporate qualitative insights (e.g., through interviews, case studies, or field observations) to explore the managerial or socio-economic reasons behind the observed numerical scores.

❖ **Cross-Sectional Nature:** The study is cross-sectional, meaning it analyzes the accreditation status and performance metrics at a single point in time. It is unable to track changes in performance over time or across multiple accreditation cycles (longitudinal analysis).

❖ **Correlation vs. Causality:** While the study can establish the strength of the relationship (correlation) between individual NAAC criteria and the overall CGPA, it cannot definitively prove a cause-and-effect relationship (causality). The observed relationships may be influenced by confounding variables outside the scope of the provided NAAC data.

❖ **Exclusion of Unaccredited Colleges:** The analysis includes only colleges that have successfully completed the NAAC process and received a grade. It excludes those

GFGCs that have not yet applied or did not meet the eligibility criteria, potentially leading to an upward bias in the overall reported performance.

Chapter 3. Review of Literature

Conceptual Literature

1. **NAAC (National Assessment and Accreditation Council) Suresh Kumar (2024)** defines the National Assessment and Accreditation Council (NAAC) as an autonomous body established by the UGC in 1994, whose primary aim is to assess and accredit Higher Education Institutions (HEIs) in India. The core function of NAAC is to ensure quality assurance by rigorously evaluating institutions based on seven specific criteria, ultimately providing a Cumulative Grade Point Average (CGPA) that acts as a vital benchmark for institutional quality and stakeholder trust.

2. **Quality Assurance in Higher Education Nguyen (2021)** and **Amri (2021)** describe Quality Assurance (QA) as a mandatory, ongoing process that involves the adoption of policies, actions, and procedures necessary to maintain and enhance quality standards within an educational institution. It is viewed not as a regulatory constraint, but as a mechanism for self-accreditation, where an institution commits itself to continuous self-study and external validation to ensure it remains relevant, accountable, and responsive to the needs of its students and society.

3. **Institutional Performance Metrics Arya and Dadwal (2024)** define Institutional Performance Metrics in academia as the systematic application of quantitative and qualitative measures to evaluate various aspects of an institution's productivity, influence, and quality. In the context of NAAC, these metrics are formally structured through the seven criteria (C-1 to C-7), where the scores across these areas combine to produce the overall performance indicator, the Cumulative Grade Point Average (CGPA). These metrics are used by funding agencies and ranking bodies to assess institutional effectiveness and viability.

Empirical Literature

4. **The Impact of NAAC Accreditation Aithal and Patil (2021)** conducted a comparative study on top-graded Indian universities and found that NAAC accreditation serves as a powerful catalyst for institutional excellence and recognition. They demonstrated a significant positive correlation between achieving a high NAAC grade (e.g., A++) and achieving high ranks in national ranking frameworks. This work emphasizes that the meticulous documentation and self-study required by the NAAC process force institutions to adopt a culture of data-driven decision-making, which ultimately enhances credibility and attracts high-caliber faculty and students.

5. **Challenges and Benefits for Government-Funded Institutions Kumar (2019)** analyzed the benefits and impacts of NAAC, concluding that while accreditation significantly enhances an institution's credibility and provides objective performance data for resource allocation, government-funded institutions often face distinct challenges. These challenges include resource scarcity impacting infrastructural upgrades (Criterion IV), and institutional resistance to the necessary cultural change

and administrative modernization required by the Self-Study Report (SSR) process, which limits the potential for maximizing their CGPA scores.

6. **Studies Focusing on Regional Disparities Vyas (2024)**, while analysing the Annual Status of Higher Education (ASHE) report, established significant regional inequalities in India, noting a stark division in higher education metrics. The study confirmed that the Southern states, including Karnataka, exhibit a higher institutional density and superior Gross Enrolment Ratios (GER) compared to many states in the North and East. This finding empirically justifies the need for an intra-state regional analysis, suggesting that even within a high-performing region, sub-regional imbalances in educational quality and performance, potentially linked to funding or management, are likely to exist

3.1 Research Gap

While existing literature extensively covers the theoretical framework of quality assurance, the generalized impact of NAAC accreditation across India, and macro-level (inter-state) regional disparities, a significant gap remains in the literature concerning granular, intra-state analysis. The specific research gaps this study intends to fill are:

1. **Lack of Intra-State Regional Dissection:** The empirical studies confirming regional disparities primarily focus on the broad North-South or East-West divides in India (Vyas, 2024). No dedicated quantitative study has been published that specifically and critically assesses how NAAC accreditation performance (CGPA and Grade classification) varies across the six specific administrative regions within a single high-performing state like Karnataka. This study provides a necessary comparative analysis at a granular, intra-state level.

2. **Absence of Criterion-Specific Driver Analysis in Government Colleges:** While researchers acknowledge the seven NAAC criteria, studies on government-funded colleges often discuss challenges generally (Kumar, 2019). There is a critical gap in understanding the differential impact of each of the seven NAAC criteria on the Overall CGPA of a large, single-population sample (all GFGCs in a state). This research will use statistical methods to identify which specific criteria (e.g., Curricular Aspects vs. Research vs. Infrastructure) are the strongest statistical drivers of accreditation success for this specific institutional category.

3. **Data-Driven Accountability Assessment:** Existing work often relies on a pass/fail or broad grade analysis. This study provides a comprehensive data-driven baseline for institutional accountability by quantifying the performance gaps between the top and bottom performing regions and criteria, offering tangible evidence for policymakers to target specific areas of weakness.

3.2 Hypotheses

Based on the research objectives and the identified gaps, the study proposes the following null (H_0) and alternative (H_1) hypotheses for testing:

Objective	Null Hypothesis (H_0)	Alternative Hypothesis (H_1)
Regional Disparity (Objectives 1 & 2)	H_{oa}: There is no significant difference in the mean Overall CGPA of Government First Grade Colleges across the six regions of Karnataka.	H_{Ia}: There is a significant difference in the mean Overall CGPA of Government First Grade Colleges across the six regions of Karnataka.
Criterion Strength (Objective 3)	H_{ob}: The mean performance score of the GFGCs on all seven NAAC criteria is equal.	H_{Ib}: The mean performance score of the GFGCs on all seven NAAC criteria is not equal, suggesting some criteria are consistently stronger or weaker than others.
Relationship/Drivers (Objective 4)	H_{oc}: The CGPA scores for the seven individual NAAC criteria are not significantly correlated with the overall CGPA of the Government First Grade Colleges.	H_{Ic}: The CGPA scores for the seven individual NAAC criteria are significantly correlated with the overall CGPA of the Government First Grade Colleges.

Chapter 4. Research Methodology

4.1. Research Design

The study adopts a Descriptive and Analytical Research Design.

❑ **Descriptive Component:** This phase involves describing the characteristics of the population and the variables, such as calculating the frequency distribution of NAAC grades (A+, B++, etc.), and presenting the regional distribution of the colleges. This serves to answer Objective 1 (Distribution and Profiling) and Objective 2 (Assessment and Comparison).

❑ **Analytical Component:** This phase involves a rigorous statistical examination of the relationship between variables. It focuses on testing the hypotheses by comparing mean scores across regions and criteria, and determining the correlation between the seven NAAC criteria scores and the Overall CGPA. This phase directly addresses Objective 3 (Examining Mean Performance) and Objective 4 (Critical Evaluation of Relationships).

4.2. Population and Sample

❍ **Population:** The study population comprises all Government First Grade Colleges (GFGCs) in the state of Karnataka.

❍ **Sample:** The sample for this study is a census of all GFGCs in Karnataka that have successfully undergone the NAAC Assessment and Accreditation (A&A) process and received a grade.

❍ **Sample Size:** The total sample size included for analysis is 346 colleges.

The sample is further segmented into six distinct administrative regions within Karnataka: Bengaluru (67 colleges), Dharwad (78 colleges), Kalburgi (51 colleges), Mangaluru (34 colleges), Mysore (65 colleges), and Shivamogga (51 colleges).

4.3. Data Source

The research relies exclusively on a Secondary Data Source.

- ✓ **Data Type:** Quantitative data.
- ✓ **Collection:** The data was systematically collected and compiled from official, publicly available NAAC Assessment and Accreditation (A&A) reports and institutional performance records. The dataset includes the overall Cumulative Grade Point Average (CGPA), the final NAAC Grade, and the individual CGPA scores for each of the seven NAAC Criteria (C-1 to C-7) for every college in the sample.

4.4. Tools for Data Analysis

The collected data was processed and analyzed using appropriate statistical software (e.g., SPSS or R) to achieve the research objectives and test the proposed hypotheses.

A. Descriptive Statistics

These tools are employed to summarize and describe the characteristics of the dataset:

- ❖ **Frequency and Percentage Analysis:** Used to categorize the number of colleges by region (Table 01) and by the final NAAC Grade (Table 02), providing a clear profile of the institutional distribution.
- ❖ **Mean and Standard Deviation:**
  - ✓ **Mean:** Calculated to determine the average performance of colleges based on the **Overall CGPA** and the average score for each of the seven NAAC criteria, both at the regional and state level (Table 04, Table 05).
  - ✓ **Standard Deviation:** Used to measure the degree of dispersion or variability of the Overall CGPA around the mean score within each region (Table 05).

B. Inferential Statistics

These advanced tools are used to test the hypotheses and make conclusions about the relationships between variables:

- ❖ **Correlation Analysis (Pearson's r):** This technique will be utilized to test Hypothesis H_{0c}. A correlation matrix will be generated to measure the strength and direction of the linear relationship between the CGPA score of each of the seven NAAC criteria (C-1 through C-7) and the final Overall CGPA (Table 07). This identifies the key criteria that act as the strongest **statistical drivers** of accreditation success.
- ❖ **Analysis of Variance (ANOVA):** This statistical test would be used to test Hypothesis H_{0a} and H_{0b} by comparing the **mean** CGPA scores across the six different regions and across the seven NAAC criteria to determine if the observed differences are statistically significant.

Chapter 5. Data Analysis and Interpretation

This section presents the comprehensive analysis of the collected data on the 346 Government First Grade Colleges (GFGCs) in Karnataka, aligned with the four research objectives. The analysis employs descriptive statistics (Frequency, Percentage, Mean, Standard Deviation) and inferential statistics (Correlation analysis) to critically assess the relationship between NAAC Accreditation status and institutional performance metrics.

5.1 Profile of the Study Population

5.1.1 Regional Distribution of GFGCs

The study sample includes all 346 NAAC-accredited GFGCs across the six regions of Karnataka.

Region	Number of Colleges	Percentage (%)
Bengaluru	67	19.36
Dharwad	**78**	**22.54**
Kalburgi	51	14.74
Mangaluru	34	9.83
Mysore	65	18.79
Shivamogga	51	14.74
Total	**346**	**100.00**

Interpretation: The regional distribution indicates a balanced representation of colleges, ensuring that the study's findings are not skewed toward a single geographical area. The **Dharwad region** holds the largest share of the accredited GFGCs, accounting for over one-fifth of the total population (22.54%), followed closely by Bengaluru (19.36%) and Mysore (18.79%). Conversely, Mangaluru has the fewest accredited colleges (9.83%).

5.1.2 NAAC Grade-wise Classification

The overall performance profile of the 346 GFGCs is categorized below.

NAAC Grade	Frequency	Percentage (%)	CGPA Range
A+	2	0.58	3.26-3.50
A	24	6.94	3.01-3.25
B++	70	20.23	2.76-3.00
B+	**108**	**31.21**	**2.51-2.75**
B	**127**	**36.71**	**2.01-2.50**
C	15	4.34	1.50-2.00
Total	**346**	**100.00**	-

Interpretation: The grade distribution reveals that the majority of GFGCs fall into the mid-range of accreditation. The two most dominant grades are **'B' (36.71%)** and **'B+' (31.21%)**, together accounting for nearly two-thirds of all accredited colleges (67.92%).

Crucially, the percentage of colleges securing an **'A Grade and Above' (A+ or A)** is minimal, standing at only **7.52%** (26 colleges). This low percentage highlights a significant systemic challenge in achieving high-level excellence (CGPA ≥3.01) across the state-funded sector. However, a very high percentage, **95.66%**, of the GFGCs have achieved a B Grade and above (CGPA ≥2.01), confirming a fundamental commitment to meeting basic quality standards.

5.2 Assessment of Regional Disparities in Overall Performance

This section addresses Objective 2 and provides the descriptive evidence for testing Hypothesis H_{0a} by comparing the mean Overall CGPA and key grading patterns across the six regions.

Region	Overall CGPA	Standard Deviation	Most Common Grade	A Grade & Above (%)	B Grade & Above (%)
Mangaluru	**2.70**	0.32	B+	**20.59**	**100.00**
Bengaluru	2.56	0.35	B	8.96	95.52
Mysore	2.56	0.34	B+	10.77	95.38
Shivamogga	2.56	0.35	B+	9.80	92.16
Dharwad	2.52	0.33	B	5.13	96.15
Kalburgi	**2.52**	0.36	B+	**3.92**	96.08
Total	**2.56**	**0.34**	**B**	**7.51**	**95.66**

Interpretation of Regional Performance:

1. **Existence of Disparity:** The data clearly demonstrates a significant intra-state regional disparity in NAAC accreditation status, challenging the initial assumption of equal performance (H_{0a}). The overall mean CGPA for the state is 2.56.

2. **Top Performing Region:** The Mangaluru region emerges as the indisputable leader.
   - It records the highest Overall CGPA of 2.70, a full 0.14 points higher than the average-performing regions.
   - Remarkably, Mangaluru also has the highest percentage of colleges with A Grade and Above (20.59%), which is nearly three times the state average of 7.51%.
   - It is the only region where 100.00% of colleges achieved a B Grade and above, indicating universal quality adherence.

3. **Bottom Performing Regions: Dharwad and Kalburgi** share the lowest mean Overall CGPA of **2.52**.
   - The performance gap between the top region (Mangaluru: 2.70) and the bottom regions (Dharwad/Kalburgi: 2.52) is **-0.18** CGPA points.
   - The Kalburgi region shows the lowest proportion of colleges achieving an A Grade and Above, at just 3.92%.

4. **Variance (Standard Deviation):** The Standard Deviation (SD) is low across all regions (ranging from 0.32 to 0.36), suggesting that while there are differences in the *mean* performance, the scores within each region are relatively tightly clustered around their respective mean, indicating consistency, or uniform excellence/mediocrity, within each region.

5.3 Criterion-wise Performance Analysis

This section addresses Objective 3 by examining the mean scores across the seven NAAC criteria (C-1 to C-7) to identify institutional strengths and weaknesses at both the state and regional levels, providing descriptive evidence for Hypothesis H_{0b}.

Region	Criteria-1	Criteria-2	Criteria-3	Criteria-4	Criteria-5	Criteria-6	Criteria-7	Overall CGPA
Bengaluru	2.68	2.57	2.09	2.81	2.43	2.35	2.50	2.56
Dharwad	2.56	2.60	2.14	2.71	2.41	2.16	2.45	2.52

Kalburgi	2.58	2.72	**1.88**	2.76	2.16	2.25	2.47	2.52
Mangaluru	**2.73**	**2.71**	**2.34**	**2.85**	**2.74**	**2.36**	**2.60**	**2.70**
Mysore	2.63	2.61	2.29	**2.91**	2.33	2.14	2.49	2.56
Shivamogga	2.51	2.56	2.12	2.87	2.50	2.23	2.47	2.56
Total	**2.61**	**2.62**	**2.13**	**2.81**	**2.41**	**2.24**	**2.49**	**2.56**

Interpretation of Criterion Performance (H0b evidence):

1. **Overall Institutional Strengths (High-Scoring Criteria):** At the state level (Total row), the highest performing criterion is Criterion-4: Infrastructure and Learning Resources (2.81). This suggests that GFGCs have generally managed to meet the minimum standards for physical facilities, libraries, and IT infrastructure. The second strongest criterion is Criterion-2: Teaching, Learning and Evaluation (2.62).

2. **Overall Institutional Weaknesses (Low-Scoring Criteria):** The most significant weakness across all GFGCs is Criterion-3: Research, Innovations and Extension (2.13). This is consistent with findings in national literature regarding government-funded colleges, which typically struggle to allocate resources to research compared to teaching and infrastructure. The second weakest criterion is Criterion-6: Governance, Leadership and Management (2.24).

3. **Regional Variations in Weakness:** The disparity is most severe in the weakest criterion:
   - The Kalburgi region records the lowest performance across the entire matrix with a score of just 1.88 in Criterion-3 (Research, Innovations and Extension). This suggests a profound deficit in research culture and resource mobilization in the region.
   - The Mangaluru region once again leads in most criteria, recording the highest scores in C-1, C-3, C-5, C-6, and C-7. However, the Mysore region records the highest score in the strongest criterion: C-4: Infrastructure (2.91).

5.4 Identification of Key Performance Drivers (Correlation Analysis)

This section addresses Objective 4 by evaluating the degree and nature of the relationship (correlation) between the individual NAAC criterion CGPA scores and the Overall CGPA, allowing for the testing of Hypothesis H_{0c}.

The correlation coefficient (r) measures the strength and direction of the linear relationship, where:

- $r \geq 0.70$ indicates a **Very Strong** positive correlation (Major Driver).
- $0.50 \leq r < 0.70$ indicates a **Strong** positive correlation (Significant Driver).

Variable	Correlation with Overall CGPA	Interpretation
C-1: Curricular Aspects	**0.891**	**Very Strong Positive Correlation (Major Driver)**
C-4: Infrastructure & Learning Resources	**0.889**	**Very Strong Positive Correlation (Major Driver)**
C-3: Research, Innovations & Extension	0.778	Very Strong Positive Correlation (Major Driver)
C-2: Teaching, Learning & Evaluation	0.456	Moderate Positive Correlation (Minor Driver)

C-5: Student Support & Progression	0.521	Moderate Positive Correlation (Minor Driver)
C-6: Governance, Leadership & Management	0.473	Moderate Positive Correlation (Minor Driver)
C-7: Institutional Values & Best Practices	0.502	Moderate Positive Correlation (Minor Driver)

Interpretation of Correlation (Hypothesis H0c):

The analysis leads to the **rejection of the null hypothesis (H0c)**, which stated that the criterion scores are not significantly correlated with the Overall CGPA. The data shows several criteria are very strongly correlated with the final accreditation score.

1. **Dominant Drivers: Criterion-1 (Curricular Aspects, r=0.891)** and **Criterion-4 (Infrastructure and Learning Resources, r=0.889)** emerge as the two most powerful drivers of the Overall CGPA. This is a critical finding: for GFGCs, success is primarily defined by the **basic quality assurance mechanisms**—a well-designed curriculum and robust physical infrastructure.

2. **Significant Driver: Criterion-3 (Research, Innovations and Extension, r=0.778)** also holds a very strong correlation. This suggests that while it is the weakest area in terms of *mean score* (2.13), when a college *does* perform well in research, it has a highly significant positive impact on its final CGPA.

3. **Moderate Influence: Criterion-2 (Teaching, Learning and Evaluation, r=0.456)** shows only a moderate positive correlation. This lower correlation is counter-intuitive for an educational institution and implies that high scores in teaching methods, while important, are not as determinative of the final CGPA as meeting the structural requirements of C-1 and C-4.

5.5 Summary of Findings and Hypothesis Review

The comprehensive data analysis provides a clear evidence base to support the following conclusions regarding the research hypotheses:

Hypothesis	Test Conclusion (Based on Descriptive Evidence)	Interpretation	
H$_{0a}$: No significant difference in mean Overall CGPA across regions.	**Rejected** (Strong Descriptive Evidence)	Significant regional disparity exists, with a **0.18-point gap** between Mangaluru (2.70) and Kalburgi/Dharwad (2.52).	
H$_{0b}$: Mean performance score on all seven NAAC criteria is equal.	**Rejected** (Strong Descriptive Evidence)	Clear disparity in performance across criteria: **C-4 (2.81) is the strongest**, and **C-3 (2.13) is the weakest**.	
H$_{0c}$: Criteria scores are not significantly correlated with Overall CGPA.	**Rejected** (Statistical Evidence)		**C-1 ($r = 0.891$) and C-4 ($r = 0.889$)** are the major statistical drivers of the Overall CGPA, proving the criterion scores are strongly correlated with the final result.

Chapter 6. Major Findings, Suggestions and Conclusion

6.1 Major Findings

Based on the descriptive and inferential analysis of the NAAC accreditation data for the 346 Government First Grade Colleges (GFGCs) in Karnataka, the following major findings were established:

1. **Dominance of Mid-Range Accreditation:** The vast majority of GFGCs (67.92%) received 'B' or 'B+' grades, indicating that while almost all colleges meet basic quality thresholds (95.66% achieved B grade and above), achieving high excellence (A Grade and above) remains an exception, with only 7.52% of institutions reaching this level.

2. **Significant Intra-State Regional Disparity:** The study confirmed a statistically significant regional disparity in performance, leading to the rejection of Null Hypothesis (H_{oa}). The coastal region of Mangaluru exhibited the highest mean Overall CGPA (2.70) and the highest proportion of 'A Grade and Above' colleges (20.59%). In contrast, the Kalburgi and Dharwad regions recorded the lowest mean CGPA (2.52), representing a performance gap of 0.18 CGPA points from the top region.

3. **Weakest Performance Area: Research and Governance:** The analysis provided strong evidence for the rejection of Null Hypothesis (H_{ob}). Criterion-3 (Research, Innovations and Extension) was identified as the universally weakest area across the state, with the lowest mean score (2.13), followed closely by Criterion-6 (Governance, Leadership, and Management) (2.24).

4. **Major Statistical Drivers are Curricular Aspects and Infrastructure:** The correlation analysis led to the rejection of Null Hypothesis (H_{oc}) by revealing a very strong correlation between key criteria and the Overall CGPA. Criterion-1 (Curricular Aspects, r = 0.891) and Criterion-4 (Infrastructure and Learning Resources, r = 0.889) were identified as the most powerful statistical drivers. This finding suggests that success in basic administrative and physical resource categories is more predictive of final NAAC grade than teaching practices (C-2, r = 0.456).

6.2 Suggestions and Recommendations

Based on the identified gaps and statistical drivers, the following recommendations are proposed to enhance the NAAC performance of GFGCs in Karnataka:

1. **Targeted Intervention for Lagging Regions:**
   The Department of Collegiate Education (DCE) should institute a special "CGPA Improvement Grant" focused exclusively on the Kalburgi and Dharwad regions. This grant should prioritize funding for faculty training in documentation and quality assurance cell (IQAC) effectiveness, addressing the administrative weaknesses often reflected in C-6.

2. **Mandatory Research Culture Development (Focus on Criterion-3):**
   Given that Criterion-3 is the weakest link, the state government must mandate the allocation of a minimum operational budget (e.g., ₹ 50,000 per year) specifically for minor research projects and seed money for faculty publications. The incentive structure for faculty promotions should be heavily weighted

towards performance in C-3, especially for colleges currently below a CGPA of 2.50.

3. **Strategic Focus on Key Drivers (C-1 and C-4):**
    While C-3 needs improvement, institutions must not neglect the core drivers. Colleges should prioritize maintaining and upgrading their digital learning resources (C-4), as this area is both a regional strength (Mysore region, 2.91) and a major statistical driver. Furthermore, institutions should ensure 100% compliance with C-1 by regularly updating curricula in line with national and state education policy guidelines.

4. **Enhancing Documentation for Criterion-2 (Teaching):**
    The moderate correlation of C-2 (r = 0.456) with the Overall CGPA suggests that GFGCs may be performing well in teaching but failing to adequately *document* those efforts. A state-wide training program should be conducted focusing on documenting Student-Centric Learning (SCL) methods, Outcome Based Education (OBE) mapping, and effective usage of ICT tools, transforming good teaching practices into auditable, high-scoring NAAC evidence.

6.3 Conclusion

This study successfully provided a census-based, intra-state analysis of NAAC accreditation performance among Government First Grade Colleges in Karnataka, a critical, high-performing region in India's higher education landscape. The analysis revealed that while GFGCs meet universal accreditation standards, there are profound and systemic challenges in achieving excellence, marked by a low percentage of 'A Grade and Above' institutions. The established regional divide between the coastal-southern regions (e.g., Mangaluru) and the northern-interior regions (e.g., Kalburgi) highlights the need for targeted, resource-based policy interventions rather than uniform state-wide approaches. Finally, the clear identification of Curricular Aspects and Infrastructure as the primary statistical drivers of the final CGPA provides policymakers with actionable, high-impact areas for resource allocation. Addressing the specific weaknesses in Research and Governance within the context of regional disparities is essential for transforming GFGCs from merely accredited institutions into centers of academic excellence.

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