

**UNIVERSITY OF CAPE COAST**



**COLLEGE OF HUMANITIES AND LEGAL STUDIES**

**SCHOOL OF ECONOMICS**

**DEPARTMENT OF DATA SCIENCE AND ECONOMIC POLICY**

**2024/2025 ACADEMIC YEAR**

**COURSE TITLE: DATA CURATION AND MANAGEMENT PLANS**

**COURSE CODE: DMA820**

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## ASSIGNMENT 2

1. Outline six (6) Data quality performance indicators recommendable for meeting the vision of your institution. (One Page)

The vision of the Ghana Education Service is to provide a quality, relevant, and accessible education for all Ghanaian children. To support this vision, here are six key data quality performance indicators:

- **Accuracy:** The data must be correct and reliable. For GES, this means ensuring that student enrollment figures, teacher qualifications, and school infrastructure details are free from errors. Inaccurate data can lead to misallocation of resources, incorrect policy decisions, and a failure to address real educational needs.
- **. Validity:** The data must conform to a specific format and range of values. For example, a student's age should be within a reasonable range (e.g., 3-25 years), and school codes should follow a predefined structure. Invalid data can corrupt the database and make it unusable for statistical analysis.
- **Timeliness:** Data must be available when it is needed. GES requires up-to-date information on daily school attendance, teacher payroll, and student performance on examinations. Delayed data can make it impossible to respond to urgent issues, like a disease outbreak in a school or a sudden shortage of some school materials.
- **Consistency:** Data should be consistent across different systems and reports. A student's name, age, and grade level should be the same in the school's records, the district's database, and the national system. Inconsistent data leads to confusion and makes it difficult to merge datasets for comprehensive and meaningful analysis.
- **Completeness:** All necessary data should be present. For example, every student in the system should have a unique ID, and all schools should have a complete record of their facilities, teacher roster, and performance data. Incomplete data can hide critical gaps, such as a lack of teachers in specific subjects or regions, and prevent a holistic view of the education system
- **Accessibility:** The right people must be able to access the right data at the right time. For GES, this means creating secure, user-friendly dashboards for headteachers, district

directors, and national policymakers. Data that is difficult to access is data that is not used, rendering all other quality efforts irrelevant.

2. For the Ghana Education Service, prioritizing certain administrative data for long-term archiving is crucial for historical analysis, trend identification, and future policy formulation. Here are five key data points and their justifications:

➤ **Student Enrollment and Attendance Records:**

These records provide the foundational data for tracking the growth and reach of the education system over time. Archiving them allows GES to analyze enrollment trends by region, gender, and school type. This information is vital for forecasting future infrastructure needs, such as building new schools or expanding existing ones, and for evaluating the effectiveness of policies aimed at improving access to education. It also helps in identifying and addressing issues of student drop-out and chronic absenteeism.

➤ **Teacher and Staff Professional Development and Training Records:**

The quality of education is directly tied to the quality of teaching staff. Archiving records of teacher training, certifications, and professional development courses is essential. This data enables GES to analyze the long-term impact of training programs on student outcomes. It helps in identifying skill gaps in the teaching workforce and in planning future training initiatives to meet evolving curriculum demands. It also provides a historical record of the professional growth of the teaching profession in Ghana.

➤ **School Performance and Examination Results Data:**

This data, including scores from national examinations like the BECE and WASSCE, is a primary indicator of the education system's effectiveness. Archiving this information allows for a longitudinal analysis of academic performance trends across different schools, districts, and regions. This helps GES identify schools or areas that consistently underperform, enabling targeted interventions. It also provides a historical benchmark to measure the success of new educational reforms and curriculum changes.

➤ **School Infrastructure and Facilities Data:**

Details on school buildings, classrooms, libraries, laboratories, and sanitation facilities are critical for capital planning and resource allocation. Archiving this data provides a historical record of the physical state of the education system. It allows GES to track progress in reducing the number of schools under trees, improving sanitation, and providing modern learning

environments. This information is invaluable for securing funding from government and development partners for infrastructure projects and for long-term maintenance planning.

➤ **Financial Records and Budgetary Allocations to Schools and Districts:**

These records track how funds are distributed and utilized across the education system. Archiving this data is crucial for transparency, accountability, and financial planning. It allows GES to analyze spending patterns, evaluate the efficiency of resource allocation, and identify areas where financial support is most needed. By reviewing past budgets and expenditures, GES can better plan for future fiscal years, ensuring that funds are directed towards strategic priorities that have the greatest impact on student learning and teacher welfare.

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