INDIA'S DATA IMPERATIVE – REPORT

NEWS: Recently, NITI Aayog released a report, titled **"India's Data Imperative: The Pivot Towards Quality."**

- The report underscores the **urgent need for robust data quality to fortify digital governance,** cultivate **public trust**, and **ensure efficient service delivery.**
- The report critically examines the pervasive challenges posed by **poor data quality** and introduces practical, easy-to-use tools.

WHAT'S IN THE NEWS?

Understanding Data and Its Importance

- **Definition of Data**: Data refers to raw facts and figures that are collected, measured, or observed. These can be numerical (quantitative) or descriptive (qualitative).
- **Nature of Raw Data**: In its unprocessed form, data lacks meaning or context. It becomes valuable only when processed, analyzed, and interpreted to inform decisions.
- **Types of Data**:
    - *Quantitative Data*: Numerical values such as transaction counts or monetary figures.
    - *Qualitative Data*: Descriptive features such as demographic traits or service feedback.

2. Key Digital Public Infrastructure Data (NITI Aayog Report Highlights)

- **UPI Transactions (April 2025)**:
    - Total Transactions: 17.89 billion
    - Total Value: ₹23.9 trillion – equivalent to the monthly GDP of several mid-sized economies.
- **Aadhaar Authentication**:
    - 27.07 billion authentications conducted in FY 2024–25.
- **Ayushman Bharat Health Cards**:
    - Over 369 million cards issued to citizens.
- **DigiLocker**:
    - User Base: 46.52 crore users as of February 1, 2025.
- **Internet and Broadband Penetration**:
    - Total Internet Connections: 96.96 crore (June 2024)
    - Broadband Connections: 94.92 crore (August 2024)

From Data Scale to Data Precision

- **What is Data Quality?**

    - Refers to attributes such as accuracy, completeness, consistency, timeliness, validity, and reliability of data.
- **Why Data Quality Now?**
    - As India achieves digital scale, sustaining trust and delivering efficient services require transitioning towards precision and high-quality datasets.

Why Data Quality Matters

- **Fiscal Efficiency & Resource Allocation**:
    - Poor data leads to fiscal leakage, such as duplicate or ineligible beneficiaries.
    - *Example*: Deletion of 17.1 million ineligible PM-Kisan beneficiaries saved ₹90 billion.
- **Policy Effectiveness and Responsiveness**:
    - Unreliable data distorts policy-making and delays interventions.
    - *Example*: Mismatched land title data delayed crop-loss compensation.
- **Public Trust and Service Delivery**:
    - Incorrect records can erode public confidence in digital platforms.
    - *Example*: Aadhaar mismatches have blocked pensions and health services.
- **Operational Efficiency in Governance**:
    - Errors such as wrong IFSC codes can delay welfare payments.
    - *Example*: Wrong codes delayed PM-Kisan subsidy transfers.
- **AI and Automated Governance**:
    - AI models rely on clean data for accurate predictions.
    - Bad data can cause *AI hallucinations*, leading to incorrect or harmful outputs.
- **Cost of Poor Data**:
    - Data errors require manual corrections and reconciliation.
    - *Example*: LPG rejections due to data issues took over 2 years to fix.
- **Data Quality Debt**:
    - Persistent poor data quality creates long-term inefficiencies that worsen over time and are harder to resolve.

Challenges in India's Data Ecosystem

- **Systemic Design Flaws**:
    - Speed is incentivized over accuracy, causing recurring mistakes.
    - *Example*: In PM-Kisan 2017, 4.4 lakh ghost students claimed midday meal funds.

- **Data Fragmentation**:
    - Departmental silos and incompatible formats hinder data integration.
- **Legacy Systems vs. Modern Demands**:
    - Old IT systems lack validation tools and audit trails.
    - *Example*: Ration card machines failed to read elderly fingerprints in 2024.
- **Lack of Accountability**:
    - No defined ownership of data leads to uncorrected errors.
    - *Example*: 17,000 health cards blocked in 2022 without any responsible authority.
- **Incentivizing Speed over Accuracy**:
    - Performance metrics focus on enrolment numbers rather than data correctness.
    - *Example*: LPG subsidy rollout in 2013 had 40% rejections due to haste.
- **Low Standards and Expectations**:
    - Acceptance of 80% accuracy normalizes errors.
    - *Example*: State declared ODF in 2019, but 2020 audit revealed 50% lacked toilets.

India's Data Governance Landscape

- **Historical Foundations**:
    - Begins with the 1881 Census; institutions like NSSO and CSO led structured data collection.
- **Digital Advancements**:
    - MIS systems like HMIS (Health) help monitor and evaluate performance across schemes.
- **Digital India (2015)**:
    - Pushes for digital delivery of public services.
    - Example: Karnataka's *Pratibimba* dashboard tracks governance metrics.

Key Government Initiatives for Data Quality

- **Data Governance Quality Index (DGQI)**:
    - Launched in 2020 by NITI Aayog's DMEO to assess data preparedness.
    - DGQI 2.0 (2021) includes strategy and outcome-level assessment.
- **Centre for Data Management and Analytics (CDMA)**:
    - Established in 2016 under CAG to promote data analytics in audits.
- **National Data Governance Framework Policy (NDGP, 2022)**:

    - Aims to standardize data management across departments.
    - India Data Management Office (IDMO) will supervise implementation.
- **Open Data Initiative (data.gov.in)**:
    - Promotes transparency and access to public data for research and innovation.
- **National Data Analytics Platform (NDAP, 2022)**:
    - Central platform for accessing standardized government datasets in real-time.
- **Open Data Telangana (since 2017)**:
    - State-level platform to improve data accessibility and citizen engagement.
- **Chief Data Officers (CDOs)**:
    - Appointed in ministries to oversee data validation, standards, and quality compliance.

Global Best Practices

- **Singapore**:
    - Government Data Office ensures data transparency and cross-ministerial coordination.
- **New Zealand**:
    - Integrated Data Infrastructure (IDI) aggregates multi-sectoral data for targeted policymaking.
- **Australia**:
    - Appoints Chief Data Officers; emphasizes interoperability and cross-agency collaboration.
- **Estonia**:
    - Digital services and e-Residency model use secure, quality data for efficient service delivery.
- **United States**:
    - Open Data Initiative and Data Quality Assessment Framework ensure transparency and reliability.
- **United Kingdom**:
    - Implements National Data Strategy through the Government Data Office for standardization.

The Way Forward: Enhancing Data Quality in India

- **Institutionalizing Data Ownership**:
    - Assign specific custodians at every level to ensure data accuracy and responsibility.

- **Incentivizing Data Accuracy**:
    - Link rewards and reviews to data quality metrics, not speed or volume.
- **Improving Interoperability**:
    - Adopt common data formats to enable seamless exchange across platforms.
- **Tools Introduced by NITI Aayog**:
    - *Data Quality Scorecard*: Monitors accuracy, completeness, timeliness.
    - *Data Quality Maturity Framework*: Evaluates maturity of data practices.
    - *Starter Kit*: Offers quick interventions like real-time validation and grievance linkage.
    - *Data Custodianship Tools*: Assigns stewards to maintain high-value datasets.
    - *Interoperability Framework*: Links systems like Aadhaar, UPI, and PM-Kisan.
    - *Automated Validation Tools*: Reduces human errors during data entry.
- **Promoting Data Stewardship Culture**:
    - Build a culture of shared responsibility for data accuracy in all departments.
- **Ensuring Data Security & Privacy**:
    - Implement robust frameworks modeled on global standards.
- **Periodic Audits and Updates**:
    - Regular quality checks and database validations (e.g., Aadhaar) to eliminate inconsistencies.

Conclusion

- **Strategic Shift Required**: India's data journey must evolve from scale to precision to ensure effectiveness.
- **Benefits of Quality Data**: Enhances public trust, fiscal efficiency, targeted delivery, and reliable AI governance.
- **Future Outlook**: A well-structured data governance system will enable inclusive, responsive, and efficient public service delivery aligned with national development goals.

Source: https://www.newsonair.gov.in/niti-aayog-releases-indias-data-imperative-report-highlights-urgent-need-for-robust-data-quality-digital-governance/