DATA GOVERNANCE OVERVIEW

SkillWeed

TABLE OF CONTENTS

CLASS 1:
UNDERSTANDING DATA GOVERNANCE

Session 1 (2 hours)

SECTION 1: INTRODUCTION TO DATA GOVERNANCE (30 MINUTES)

WHAT IS DATA GOVERNANCE?

Data Governance is the process of managing data as a strategic asset within an organization. It encompasses the policies, procedures, and practices that ensure data is accurate, consistent, secure, and used effectively.

Data Governance is essential because data is a valuable resource that can drive business decisions, improve operations, and enhance customer experiences. Poor data governance can lead to data inaccuracies, compliance issues, and missed opportunities.

Example: Consider a retail company that relies on sales data to make inventory decisions. If this data is inaccurate or inconsistent, the company may overstock or understock products, leading to financial losses.

HISTORICAL PERSPECTIVE

Data Governance has evolved over time. In the past, data management was often fragmented and lacked a strategic approach.

Example: In the early days of computing, organizations stored data on paper and in physical filing systems. There was little coordination or standardization in data handling.

SECTION 2: ROLE OF A DATA GOVERNANCE ANALYST (30 MINUTES)

THE DATA GOVERNANCE TEAM

Data Governance is a collaborative effort that involves multiple roles within an organization. The Data Governance team typically includes executives, data stewards, data architects, and Data Governance Analysts.

Example: In a healthcare organization, the Data Governance team may consist of a Chief Data Officer (CDO), a data quality manager, and data analysts. Each role has specific responsibilities in managing healthcare data.

RESPONSIBILITIES AND KEY TASKS

Data Governance Analysts play a crucial role in implementing data governance practices. Their responsibilities may include:

- Developing and documenting data policies and standards.
- Identifying data owners and stewards for different datasets.
- Monitoring data quality and ensuring compliance with data governance policies.
- Collaborating with business units to understand data requirements.

- Creating and maintaining a data catalog.

  - Example: A Data Governance Analyst in a financial institution might work with the finance department to ensure that financial data is accurate and follows regulatory guidelines.

SECTION 3: DATA GOVERNANCE FRAMEWORKS AND STANDARDS (30 MINUTES)

DATA GOVERNANCE FRAMEWORKS

Data Governance frameworks provide structured approaches to implementing data governance. Popular frameworks include DAMA (Data Management Association) and DGI (Data Governance Institute).

Example: A company implementing the DAMA framework would follow its guidelines for establishing data stewardship roles and defining data quality metrics.

DATA GOVERNANCE STANDARDS

Standards, such as ISO 8000, provide guidelines for data quality, data security, and data management practices.

Example: ISO 8000 sets standards for data accuracy and completeness, which can be crucial for organizations handling customer data.

SECTION 4: INTERACTIVE DISCUSSION AND Q&A (30 MINUTES)

Open the floor for questions and discussions.

Encourage participants to share their thoughts on the importance of data governance in their organizations or industries.

Discuss real-world examples of how effective data governance has positively impacted organizations or instances where poor data governance had negative consequences.

HOMEWORK ASSIGNMENT (TO BE COMPLETED BEFORE SESSION 2):

Read a case study on a successful data governance implementation (provide a relevant case study or direct participants to resources).

Prepare a brief summary and be ready to discuss it in the next session.

KEY TAKEAWAYS:

- Data Governance is crucial for managing data as a strategic asset.
- The Data Governance Analyst role is central to implementing data governance practices.
- Data Governance frameworks and standards provide structured guidance.
- Real-world examples illustrate the impact of data governance on organizations.

CLASS 2:
BUILDING BLOCKS OF DATA GOVERNANCE

Session 2 (2 hours)
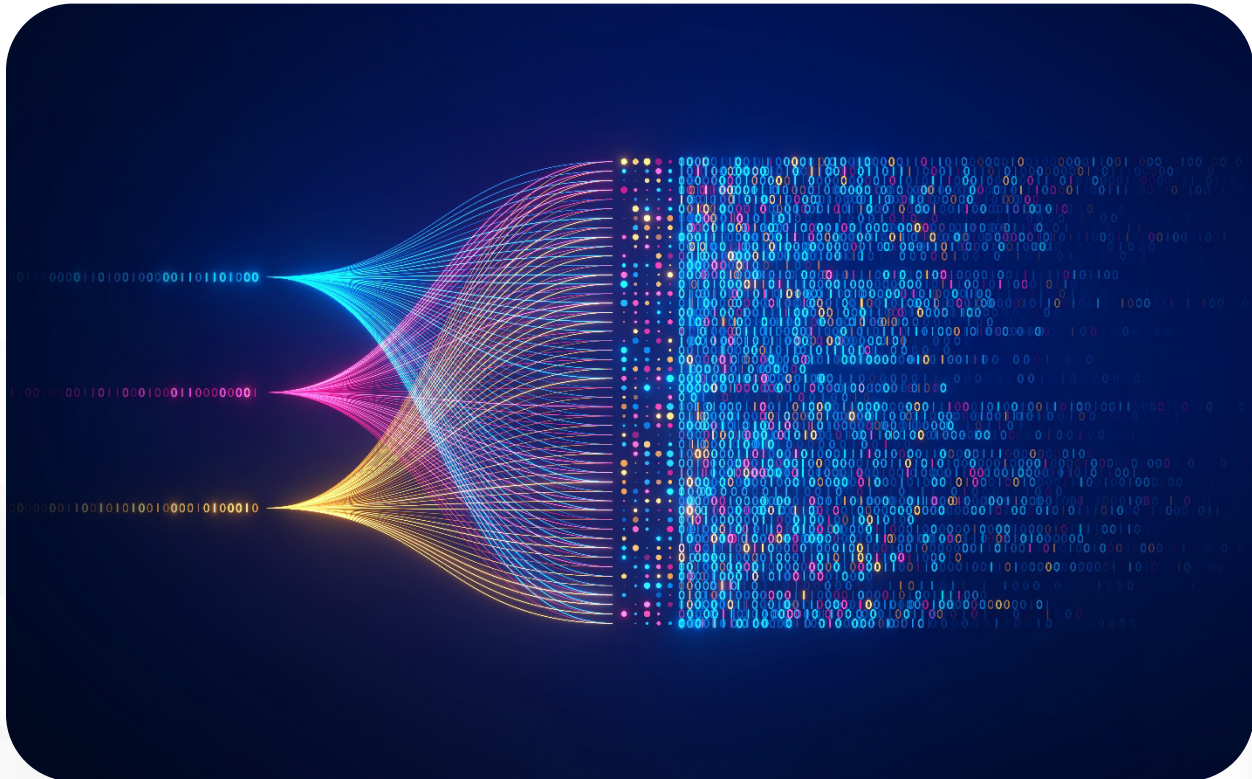
SECTION 1: DATA STEWARDSHIP VS. DATA OWNERSHIP (30 MINUTES)

UNDERSTANDING DATA STEWARDSHIP

Data Stewardship is the practice of assigning responsibility for data to individuals or teams within an organization. Stewards are accountable for the quality, accuracy, and security of specific datasets.

Example: In a healthcare organization, the medical records department may have data stewards responsible for ensuring the integrity and confidentiality of patient data.

EXPLORING DATA OWNERSHIP

Data Ownership refers to having ultimate accountability for a dataset. Data owners make decisions about access, usage, and retention of data.

Example: In a retail company, the Chief Financial Officer (CFO) may be the data owner for financial data.

SECTION 2: DATA QUALITY AND ITS SIGNIFICANCE (30 MINUTES)

WHAT IS DATA QUALITY?

Data Quality refers to the accuracy, completeness, consistency, and reliability of data. High data quality ensures that data is fit for its intended purpose.

Example: In e-commerce, accurate product descriptions, pricing, and inventory information are essential for customer satisfaction and efficient order processing.

THE IMPACT OF POOR DATA QUALITY

Discuss the consequences of poor data quality, including:

- Inaccurate decision-making.
- Customer dissatisfaction.
- Regulatory compliance issues.

Example: A financial institution with inaccurate customer data may inadvertently violate Know Your Customer (KYC) regulations, leading to legal penalties.

SECTION 3: DATA GOVERNANCE POLICIES AND PROCEDURES (30 MINUTES)

CREATING DATA GOVERNANCE POLICIES

Data governance policies are rules and guidelines that define how data should be managed. Topics can include data classification, data access, and data retention.

Example: A data governance policy might specify that customer data is classified as "sensitive" and must only be accessed by authorized personnel.

IMPLEMENTING DATA GOVERNANCE PROCEDURES

Procedures are the step-by-step instructions for carrying out data governance policies. They detail how data is managed, monitored, and secured.

Example: A procedure might outline the process for requesting access to sensitive data, including approvals and audits.

SECTION 4: INTERACTIVE DISCUSSION AND Q&A (30 MINUTES)

Open the floor for questions and discussions.

Encourage participants to share their experiences with data stewardship and data quality challenges in their organizations.

Discuss real-world examples of how data governance policies and procedures can address data quality issues.

HOMEWORK ASSIGNMENT (TO BE COMPLETED BEFORE SESSION 3):

Identify a specific dataset within your organization and describe who the data steward and data owner should be. Outline potential data governance policies and procedures for this dataset.

KEY TAKEAWAYS:

- Data stewardship and data ownership are essential concepts in data governance.

- High data quality is critical for effective decision-making and business success.

- Data governance policies and procedures provide a framework for managing data effectively.

- Real-world examples highlight the consequences of poor data quality and the importance of data governance.

CLASS 3:
ESTABLISHING A DATA GOVERNANCE FRAMEWORK

Session 3 (2 hours)

SECTION 1: DATA GOVERNANCE COMMITTEES AND ROLES (30 MINUTES)

UNDERSTANDING DATA GOVERNANCE COMMITTEES

Data Governance Committees are groups responsible for overseeing data governance activities within an organization. These committees ensure that data governance policies and practices align with organizational goals.

Example: A Data Governance Steering Committee may consist of executives, data stewards, and IT representatives who provide strategic direction for data governance.

ROLES WITHIN DATA GOVERNANCE

Discuss key roles within a data governance framework, such as:

- Data Stewards: Responsible for specific datasets.
- Data Owners: Accountable for data domains.
- Data Governance Managers: Oversee the implementation of data governance policies.

Example: In a healthcare organization, a Data Steward might oversee patient data, while the Chief Data Officer (CDO) serves as the Data Governance Manager.

SECTION 2: DATA CLASSIFICATION AND SENSITIVITY (30 MINUTES)

DATA CLASSIFICATION

Data Classification involves categorizing data based on its importance and sensitivity. Common classifications include public, confidential, and restricted.

Example: Financial data may be classified as "confidential" to restrict access to authorized personnel.

UNDERSTANDING DATA SENSITIVITY

Data Sensitivity refers to the level of risk associated with data. Sensitive data requires stricter controls to prevent unauthorized access or breaches.

Example: Personal identification information (PII), like Social Security numbers, is highly sensitive and requires stringent security measures.

SECTION 3: DATA LIFECYCLE MANAGEMENT (30 MINUTES)

DATA LIFECYCLE PHASES

Discuss the data lifecycle, which includes stages like creation, storage, usage, and retirement.

Example: In a retail company, product data goes through various stages from initial creation to end-of-life when a product is discontinued.

BENEFITS OF DATA LIFECYCLE MANAGEMENT

Explain how data lifecycle management ensures data is used effectively, retained as needed, and securely disposed of when no longer required.

Example: Proper lifecycle management of customer transaction data can help companies analyze purchasing trends and meet compliance requirements for data retention and disposal.

SECTION 4: INTERACTIVE DISCUSSION AND Q&A (30 MINUTES)

- Open the floor for questions and discussions.

- Encourage participants to share their experiences with data governance committees, data classification, and data lifecycle management in their organizations.

- Discuss real-world examples of how data governance frameworks have improved data management and security.

HOMEWORK ASSIGNMENT (TO BE COMPLETED BEFORE SESSION 4):

- Identify a specific data governance committee or role within your organization and describe their responsibilities. Discuss how data classification and sensitivity play a role in your organization's data governance efforts.

KEY TAKEAWAYS:

- Data Governance Committees play a pivotal role in overseeing data governance initiatives.

- Data classification and sensitivity are key for determining data access and protection requirements.

- Data lifecycle management ensures that data is managed effectively throughout its entire lifecycle.

- Real-world examples illustrate the benefits of a well-established data governance framework.

- This comprehensive content breakdown should enable you to deliver a thorough and engaging session on establishing a data governance framework in the third class. Encourage active participation and questions to enhance learning and comprehension.

CLASS 4:
DATA GOVERNANCE TOOLS AND TECHNOLOGIES

Session 4 (2 hours)

SECTION 1: INTRODUCTION TO DATA GOVERNANCE SOFTWARE (30 MINUTES)

THE ROLE OF DATA GOVERNANCE SOFTWARE

Data Governance Software plays a crucial role in automating and streamlining data governance processes. It helps organizations manage data policies, track data lineage, and enforce data quality standards.

Example: A Data Governance Analyst might use software to track changes to data assets and ensure compliance with data governance policies.

TYPES OF DATA GOVERNANCE SOFTWARE

Discuss various categories of data governance software, including:

- Data Catalogs: Organize and categorize data assets.
- Metadata Management Tools: Capture and manage metadata.
- Data Quality Software: Monitor and improve data quality.

Example: A data catalog tool helps organizations create a searchable inventory of their data assets, making it easier to locate and access relevant data.

SECTION 2: SELECTING THE RIGHT TOOLS FOR YOUR ORGANIZATION (30 MINUTES)

ASSESSING ORGANIZATIONAL NEEDS

Explain the importance of assessing your organization's specific data governance needs before selecting software. Factors to consider include data volume, complexity, and compliance requirements.

Example: A large financial institution may require data governance software with robust compliance tracking capabilities due to stringent regulatory requirements.

KEY CONSIDERATIONS IN TOOL SELECTION

Discuss critical factors to consider when choosing data governance software, such as:

- Scalability: Can the software handle your organization's data growth?
- Integration: Does it integrate seamlessly with existing systems?
- User-Friendliness: Is the software user-friendly for your team?

Example: An organization aiming to improve data quality may prioritize software that offers data profiling and cleansing features.

SECTION 3: DATA CATALOGS, METADATA MANAGEMENT, AND DATA LINEAGE (30 MINUTES)

DATA CATALOGS

Explain the role of data catalogs in data governance, including:

- Maintaining a centralized repository of data assets.
- Providing a searchable interface for users.
- Enforcing data access policies.

Example: A data catalog might list all customer-related datasets, including their descriptions, owners, and usage guidelines.

METADATA MANAGEMENT TOOLS

Describe metadata management tools, which capture and maintain information about data assets, including data definitions, data lineage, and data ownership.

Example: A metadata management tool might show how customer data flows from the CRM system to the billing system, including all transformations and transformations along the way.

DATA LINEAGE

Discuss the importance of data lineage, which visualizes the flow of data from source to destination, highlighting transformations and dependencies.

Example: Data lineage can help organizations trace data quality issues back to their source and make necessary corrections.

SECTION 4: INTERACTIVE DISCUSSION AND Q&A (30 MINUTES)

- Open the floor for questions and discussions.

- Encourage participants to share their experiences with data governance tools and technologies in their organizations.

- Discuss real-world examples of how data governance software has enhanced data management and governance practices.

HOMEWORK ASSIGNMENT (TO BE COMPLETED BEFORE SESSION 5):

- Research and identify a data governance software tool or technology that you believe would benefit your organization. Prepare a brief overview and discuss its potential advantages.

KEY TAKEAWAYS:

- Data Governance Software automates and streamlines data governance processes.

- Selecting the right tools requires a thorough assessment of organizational needs and key considerations.

- Data catalogs, metadata management tools, and data lineage are crucial components of data governance software.

- Real-world examples illustrate the impact of data governance tools on improving data management and quality.

CLASS 5:
DATA GOVERNANCE POLICIES AND PROCEDURES

Session 5 (2 hours)

SECTION 1: CREATING DATA GOVERNANCE POLICIES (30 MINUTES)

IMPORTANCE OF DATA GOVERNANCE POLICIES

Data governance policies are foundational documents that define how data should be managed, protected, and used within an organization. They set the standards for data governance.

Example: A data governance policy may specify that sensitive customer data should never be shared outside the organization without explicit consent.

KEY COMPONENTS OF DATA GOVERNANCE POLICIES

Discuss the elements that should be included in data governance policies, such as:

- Data classification criteria.
- Data access controls.
- Data retention and disposal guidelines.
- Data quality standards.

Example: A data governance policy for a financial institution may classify financial transactions as "confidential," define who can access them, specify retention periods, and establish accuracy standards.

SECTION 2: IMPLEMENTING DATA GOVERNANCE PROCEDURES (30 MINUTES)

THE ROLE OF DATA GOVERNANCE PROCEDURES

Data governance procedures provide step-by-step instructions on how to implement the policies defined in an organization's data governance framework.

Example: A procedure might outline how to request access to a restricted dataset, including the approval process and documentation requirements.

EXAMPLES OF DATA GOVERNANCE PROCEDURES

Provide examples of common data governance procedures, including:

- Data access request and approval.
- Data quality assessment and correction.
- Data retention and archiving.

Example: A data quality assessment procedure may involve regularly running data profiling tools to identify inaccuracies and then correcting them according to predefined standards.

SECTION 3: MONITORING DATA QUALITY (30 MINUTES)

DATA QUALITY METRICS

Explain the importance of defining data quality metrics to measure the accuracy, completeness, consistency, and timeliness of data.

Example: A data governance team may set a data quality metric that requires customer records to have at least 95% completeness.

DATA QUALITY MONITORING TOOLS

Introduce data quality monitoring tools that automate the tracking of data quality metrics and generate reports.

Example: A data governance analyst might use a data quality tool to continuously monitor customer data for missing or inaccurate information.

SECTION 4: INTERACTIVE DISCUSSION AND Q&A (30 MINUTES)

- Open the floor for questions and discussions.
- Encourage participants to share their experiences with creating and implementing data governance policies and procedures in their organizations.
- Discuss real-world examples of how data governance policies and procedures have improved data management and quality.

HOMEWORK ASSIGNMENT (TO BE COMPLETED BEFORE SESSION 6):

- Develop a draft data governance policy or procedure for a specific data asset within your organization. Include the key components discussed in class.

KEY TAKEAWAYS:

- Data governance policies set the standards for data management and protection.
- Data governance procedures provide practical steps for implementing policies.
- Monitoring data quality through defined metrics and tools is essential for data governance.
- Real-world examples illustrate the impact of well-defined policies and procedures on data quality and compliance.

CLASS 6:
DATA QUALITY MANAGEMENT

Session 6 (2 hours)

SECTION 1: DEFINING DATA QUALITY (30 MINUTES)

WHAT IS DATA QUALITY?

Data quality refers to the accuracy, completeness, consistency, reliability, and timeliness of data. High data quality ensures that data is fit for its intended purpose.

Example: In a retail business, accurate product descriptions, pricing, and inventory data are crucial for customer satisfaction and efficient operations.

KEY DIMENSIONS OF DATA QUALITY

Discuss the key dimensions of data quality, including:

- Accuracy: Data is free from errors and mistakes.
- Completeness: Data is whole and lacks missing values.
- Consistency: Data is uniform across different sources.
- Reliability: Data is dependable and trustworthy.
- Timeliness: Data is up-to-date and relevant.

Example: In a healthcare organization, patient records must be accurate, complete, and consistent to provide reliable medical care.

SECTION 2: DATA PROFILING AND DATA CLEANSING (30 MINUTES)

DATA PROFILING

Explain data profiling as the process of analyzing data to understand its quality and characteristics. Data profiling tools help identify data anomalies.

Example: Data profiling might reveal that a sales database contains duplicate customer records, leading to inaccurate sales reports.

DATA CLEANSING

Discuss data cleansing as the process of correcting or removing data errors, inconsistencies, and duplicates to improve data quality.

Example: Data cleansing software can automatically merge duplicate customer records, ensuring accurate customer information.

SECTION 3: MONITORING DATA QUALITY (30 MINUTES)

CONTINUOUS DATA QUALITY MONITORING

Emphasize the importance of ongoing data quality monitoring to ensure data remains accurate and consistent over time.

Example: An e-commerce company might set up automated data quality checks to flag incorrect product pricing as soon as it occurs.

DATA QUALITY METRICS AND KPIS

Introduce data quality metrics and key performance indicators (KPIs) that organizations can use to measure and track data quality improvements.

Example: A financial institution may track the percentage of error-free financial transactions as a key data quality KPI.

SECTION 4: INTERACTIVE DISCUSSION AND Q&A (30 MINUTES)

- Open the floor for questions and discussions.
- Encourage participants to share their experiences with data quality challenges and solutions in their organizations.
- Discuss real-world examples of how effective data quality management has positively impacted organizations.

HOMEWORK ASSIGNMENT (TO BE COMPLETED BEFORE SESSION 7):

- Identify a specific data quality challenge within your organization and propose a plan to address it, including data profiling, cleansing, and monitoring.

KEY TAKEAWAYS:

- Data quality encompasses accuracy, completeness, consistency, reliability, and timeliness.

- Data profiling helps identify data issues, while data cleansing corrects errors and duplicates.

- Continuous data quality monitoring is essential to maintain data quality over time.

- Real-world examples demonstrate the importance of data quality management in various industries.

CLASS 7:
DATA PRIVACY AND COMPLIANCE

Session 7 (2 hours)

SECTION 1: INTRODUCTION TO DATA PRIVACY (30 MINUTES)

WHAT IS DATA PRIVACY?

Data privacy refers to the protection of individuals' personal information and their rights to control how their data is collected, used, and shared.

Example: An online retailer must comply with data privacy regulations when handling customer data, ensuring that customer information is kept confidential and secure.

IMPORTANCE OF DATA PRIVACY

Discuss why data privacy is crucial, including:

- Protecting individuals from identity theft and fraud.
- Building trust with customers.
- Complying with legal requirements.

Example: A healthcare provider must safeguard patient data to maintain patient trust and comply with the Health Insurance Portability and Accountability Act (HIPAA).

SECTION 2: GDPR, CCPA, AND OTHER DATA PRIVACY REGULATIONS (30 MINUTES)

GENERAL DATA PROTECTION REGULATION (GDPR)

Explain GDPR, which regulates the processing of personal data of European Union (EU) residents. Discuss key GDPR principles, such as the right to be forgotten and consent requirements.

Example: A multinational company that serves EU customers must adhere to GDPR, allowing customers to request the deletion of their data.

CALIFORNIA CONSUMER PRIVACY ACT (CCPA)

Discuss CCPA, a California state law that grants California residents specific rights regarding their personal data, including the right to access and delete their data.

Example: An e-commerce business based in California must provide a "Do Not Sell My Personal Information" option to comply with CCPA.

SECTION 3: DATA COMPLIANCE AUDITS (30 MINUTES)

WHAT IS A DATA COMPLIANCE AUDIT?

Describe data compliance audits as assessments conducted to ensure that an organization is following data privacy regulations and internal policies.

Example: An audit may involve reviewing an organization's data handling processes to verify compliance with GDPR requirements.

PREPARING FOR DATA AUDITS

Discuss the importance of being prepared for data compliance audits, including maintaining documentation, training employees, and implementing necessary controls.

Example: An organization can prepare for a CCPA audit by documenting its data handling practices and ensuring that employees are aware of data privacy policies.

SECTION 4: INCIDENT RESPONSE AND DATA BREACH HANDLING (30 MINUTES)

DATA BREACH RESPONSE

Explain the steps an organization should take in the event of a data breach, including:

- Identifying the breach.
- Containing the breach.
- Notifying affected individuals and authorities.

Example: A financial institution must promptly inform customers if a breach exposes their financial data.

MITIGATING DATA BREACH CONSEQUENCES

Discuss strategies for mitigating the consequences of a data breach, including providing credit monitoring services to affected individuals and improving data security.

Example: An e-commerce company may offer affected customers a year of free credit monitoring after a data breach to help protect their financial information.

SECTION 5: INTERACTIVE DISCUSSION AND Q&A (30 MINUTES)

- Open the floor for questions and discussions.
- Encourage participants to share their experiences with data privacy and compliance challenges in their organizations.
- Discuss real-world examples of data breaches and how organizations responded to them.

HOMEWORK ASSIGNMENT (TO BE COMPLETED BEFORE SESSION 8):

- Research and analyze a recent data breach or data privacy violation reported in the news. Discuss the impact and lessons learned from the incident.

KEY TAKEAWAYS:

- Data privacy involves protecting individuals' personal information and complying with relevant regulations.
- GDPR and CCPA are examples of data privacy regulations with specific requirements.
- Data compliance audits help organizations ensure they are following data privacy regulations.
- Effective incident response is essential in handling data breaches and mitigating their impact.

CLASS 8:
DATA GOVERNANCE BEST PRACTICES

Session 8 (2 hours)

SECTION 1: CASE STUDIES AND REAL-WORLD EXAMPLES (30 MINUTES)

THE POWER OF CASE STUDIES

Explain the value of case studies in understanding how data governance best practices are applied in real-world scenarios.

Example: Present a case study of a financial institution that improved data quality and compliance by implementing robust data governance policies and procedures.

REAL-WORLD EXAMPLES

Discuss real-world examples of organizations that have successfully implemented data governance best practices, including industries such as healthcare, finance, and e-commerce.

Example: Highlight how a healthcare organization achieved HIPAA compliance through effective data governance.

SECTION 2: DATA GOVERNANCE MATURITY MODEL (30 MINUTES)

WHAT IS THE DATA GOVERNANCE MATURITY MODEL?

Introduce the Data Governance Maturity Model, a framework that assesses an organization's data governance maturity level, ranging from basic to advanced.

Example: Discuss how an organization at the "Adaptive" stage of the maturity model has well-defined policies, automated data quality checks, and a culture of data ownership.

ADVANCING DATA GOVERNANCE MATURITY

Explain how organizations can progress through the maturity model by continuously improving their data governance practices.

Example: An organization at the "Emerging" stage might focus on data classification and training, while an organization at the "Optimized" stage may prioritize advanced analytics and machine learning for data governance.

SECTION 3: PREPARING FOR A DATA GOVERNANCE ANALYST ROLE (30 MINUTES)

SKILLS AND QUALITIES OF A DATA GOVERNANCE ANALYST

Discuss the essential skills and qualities needed for a successful career as a Data Governance Analyst, including attention to detail, communication skills, and a deep understanding of data.

Example: A Data Governance Analyst must be able to communicate complex data concepts to non-technical stakeholders and work collaboratively with data stewards and IT teams.

CAREER GROWTH AND DEVELOPMENT

Highlight potential career paths and opportunities for growth within the field of data governance, such as becoming a Data Governance Manager, Chief Data Officer (CDO), or specializing in data privacy.

Example: A Data Governance Analyst who excels in their role may eventually become a CDO responsible for the entire data strategy of an organization.

SECTION 4: INTERACTIVE DISCUSSION AND Q&A (30 MINUTES)

- Open the floor for questions and discussions.

- Encourage participants to share their thoughts on the presented case studies and real-world examples.

- Discuss career aspirations and strategies for advancing in the field of data governance.

HOMEWORK ASSIGNMENT (TO BE COMPLETED AFTER CLASS 8):

- Reflect on the key learnings from this data governance mini-class and write a brief summary of your takeaways. Consider how you can apply these concepts in your current or future role.

KEY TAKEAWAYS:

- Case studies and real-world examples illustrate the practical application of data governance best practices.

- The Data Governance Maturity Model helps organizations assess and improve their data governance maturity.

- Developing skills and qualities relevant to a Data Governance Analyst role is essential for career growth.

- Data governance offers a range of career opportunities and paths for advancement.