Handling Missing Data in M&E Datasets Training Course

Professional Development Training Course Outline

Category	Monitoring and Evaluation	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In modern Monitoring & Evaluation (M&E), accurate and complete data is critical for evidence-based decision-making, program effectiveness, and accountability. However, missing data remains one of the most common challenges in M&E datasets, often leading to biased results, misinterpretation of findings, and poor program insights. Handling Missing Data in M&E Datasets Training Course equips participants with cutting-edge data handling techniques, including imputation methods, statistical adjustments, and data validation strategies, enabling them to confidently manage incomplete datasets while maintaining data integrity and quality assurance.

This course combines practical exercises, real-world case studies, and interactive sessions to enhance participants' ability to identify, assess, and address missing data in complex M&E environments. Learners will gain expertise in data cleaning, multiple imputation, predictive modeling, and reporting gaps, all while applying advanced software tools and techniques widely used in the M&E field. By the end of the training, participants will be equipped to make data-driven decisions, strengthen program accountability, and optimize monitoring strategies to deliver measurable impact.

Programme Curriculum

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Course Duration

5 days

Course Objectives

1. Understand the types and patterns of missing data in M&E datasets.
2. Apply data quality assessment techniques to detect incomplete datasets.
3. Master statistical imputation methods for accurate data recovery.
4. Develop skills in predictive modeling to handle missing values.
5. Learn sensitivity analysis for assessing missing data impact.
6. Utilize R, Python, and Excel tools for missing data management.
7. Integrate data cleaning workflows into M&E systems.
8. Interpret bias and uncertainty caused by missing data.
9. Implement data validation protocols for quality assurance.
10. Enhance reporting accuracy in dashboards and evaluations.
11. Employ real-time monitoring strategies to minimize missing data.
12. Leverage big data approaches for comprehensive dataset management.
13. Apply ethical standards and compliance in handling sensitive data.

Target Audience

1. M&E Officers and Specialists
2. Data Analysts in Development Programs
3. Program Managers and Coordinators
4. Statisticians and Research Consultants
5. Policy Analysts and Government Monitoring Teams
6. NGO and Non-Profit Data Teams
7. Academic Researchers in Social Sciences
8. Data Quality and Evaluation Auditors

Course Modules

Module 1: Introduction to Missing Data

- Define missing data and its impact on M&E.
- Identify different types: MCAR, MAR, MNAR.
- Explore common causes of incomplete datasets.
- Case Study: Missing vaccination records in a health survey.
- Assess dataset completeness in Excel.

Module 2: Data Quality Assessment

- Conduct **data audits** for missing values.
- Use **descriptive statistics** to detect anomalies.
- Visualize missing data patterns using heatmaps.
- Case Study: Evaluating incomplete beneficiary feedback forms.
- R and Python code for missing data detection.

Module 3: Data Cleaning and Preprocessing

- Understand data cleaning workflows.
- Handle duplicates, outliers, and formatting errors.
- Standardize variables for imputation readiness.
- Case Study: Cleaning household survey datasets in a nutrition program.
- Prepare raw datasets for advanced analysis.

Module 4: Imputation Techniques

- Apply mean, median, and mode imputation.
- Explore regression and predictive imputation methods.
- Implement multiple imputation for complex datasets.
- Case Study: Filling missing income data in a livelihood survey.
- Imputation using R packages and Python libraries.

Module 5: Advanced Statistical Approaches

- Conduct **sensitivity analysis** for missing values.
- Model bias and uncertainty caused by missing data.
- Evaluate **robustness of analytical results**.
- Case Study: Impact assessment of missing school attendance data.
- Compare complete case vs. imputed analysis outcomes.

Module 6: Software Tools for Missing Data

- Use R, Python, and Excel for advanced handling.
- Introduce specialized packages: mice, Amelia, missForest.
- Generate reports highlighting missing data patterns.
- Case Study: Real-world NGO data management using R.
- Automate missing data detection and reporting.

Module 7: Reporting and Decision-Making

- Integrate cleaned data into dashboards.
- Communicate uncertainty and gaps effectively.
- Ensure compliance with reporting standards.
- Case Study: Monitoring donor-funded projects with incomplete datasets.
- Build visual reports for program managers.

Module 8: Ethics, Compliance, and Best Practices

- Maintain **data confidentiality** while imputing missing data.
- Follow **ethical guidelines** in data manipulation.

- Develop **standard operating procedures** for missing data.
- Case Study: Handling missing health records in sensitive populations.
- Establish long-term strategies to prevent missing data.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com