Big Data Analytics for Social Research and Policy Development

8 – 12 March 2027
Kuala Lumpur (Malaysia)



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Ref: 3254665_316887 **Date:** 8 – 12 March 2027 **Location:** Kuala Lumpur (Malaysia) **Fees:** 4900 GBP

Introduction

This course is designed to provide participants with a comprehensive understanding of how to apply big data analytics in social research and policy development. Participants will learn how to collect, analyze, and interpret large datasets to inform and shape social policies. The course covers advanced techniques for handling big data and extracting valuable insights that can drive evidence-based decisions. By the end of the course, participants will be able to utilize big data analytics tools and methodologies to improve public sector outcomes and create more effective policies.

Whether you're looking to enhance your skills in social research or strengthen your approach to policy development, this course equips you with the knowledge and tools necessary for success.

Course Objectives

By the end of this course, participants will:

- Understand Big Data Concepts: Learn the foundational concepts of big data and its significance in social research.
- Data Collection Techniques: Master methods for collecting large-scale social data from diverse sources, including social media and government databases.
- Analyze Big Data: Develop the skills needed to analyze complex datasets using advanced analytics tools and techniques.
- Interpret Data for Policy Development: Learn how to transform data insights into actionable policy recommendations.
- Use Analytics Tools: Gain proficiency in using software like R, Python, and SQL for large-scale data analysis.
- Identify Trends: Discover ways to identify and track social trends through data analysis.
- Measure Social Impact: Learn how to measure the impact of social programs and policies using big data.
- Apply Data to Decision-Making: Understand how to make data-driven decisions to create and optimize effective social policies.
- Enhance Program Efficiency: Use data insights to improve the effectiveness and efficiency of social programs.
- Promote Evidence-Based Policy: Learn how to use data to support the development of policies backed by solid evidence.



Course Outlines

Day 1: Introduction to Big Data and Its Role in Social Research

- Understand the fundamentals of big data and its significance in social research.
- Explore the differences between traditional data and big data.
- Learn about key sources of big data social media, sensors, government data, etc..
- Discuss ethical considerations in using big data for social research.
- Understand the importance of data quality, privacy, and security.
- Learn basic data storage and management techniques for handling large datasets.

Day 2: Data Collection and Preprocessing Techniques

- Learn methods for collecting large-scale social data through web scraping, APIs, and surveys.
- Understand how to clean and preprocess raw data for analysis.
- Discover techniques for handling missing or incomplete data.
- Learn how to normalize and standardize datasets to ensure consistency.
- Study data integration tools to merge datasets from various sources.

Day 3: Big Data Analytical Tools and Techniques

- Explore popular data analytics tools like R, Python, and SQL for big data analysis.
- Learn how to perform exploratory data analysis EDA on large datasets.
- Discover advanced techniques for pattern recognition and trend analysis.
- Study machine learning algorithms for analyzing complex data regression, classification, clustering.
- Understand how to apply predictive analytics to anticipate social trends.

Day 4: Data Visualization and Interpreting Results for Policy Development

- Learn how to visualize large datasets using tools like Tableau and Power BI.
- Study techniques for creating clear, impactful data visualizations.
- Understand how to use data visualizations to present findings to policymakers.
- Learn how to interpret complex data to derive actionable insights for policy development.
- Discover how to communicate data-driven results effectively to non-technical audiences.



Day 5: Using Big Data for Evidence-Based Policy Development and Decision-Making

- Learn how to use big data insights to develop and optimize social policies.
- Understand the role of data in evaluating and monitoring policy impact.
- Study real-world case examples of data-driven policy development in the social sector.
- Learn how to identify key performance indicators KPIs to measure the success of policies.
- Develop skills to use data for strategic decision-making in government and NGOs.
- Create a policy proposal based on big data findings, applying all the techniques learned throughout the course.

Why Attend This Course: Wins & Losses!

- Learn how to leverage big data for social research and policy development.
- Gain expertise in data collection, data preprocessing, and advanced data analytics techniques.
- Master analytical tools like R, Python, and SQL for working with large datasets.
- Improve your ability to make data-driven decisions for policy optimization and social impact.
- Learn how to visualize complex data and present your findings effectively to policymakers.
- Gain skills in predictive analytics and trend forecasting to better anticipate and respond to social issues.
- Develop the ability to design evidence-based policies that can drive positive social change.
- Enhance your understanding of data privacy and ethical considerations in the use of big data.
- Gain hands-on experience working with real-world datasets and case studies.
- Stay ahead of industry trends by mastering the latest tools and techniques in big data analytics for social research.

Conclusion

This course provides participants with a comprehensive understanding of how big data analytics can be used to drive social research and inform policy development. Through hands-on experience in data analysis, visualization, and interpretation, participants will be equipped to shape impactful social policies and contribute to meaningful social change.

The skills and strategies you acquire will enable you to make data-driven decisions, improve program efficiency, and help create policies that lead to sustainable and high-impact outcomes. Whether you are focused on social research or want to enhance your policy development capabilities, this course will provide you with the essential tools and insights to succeed in the evolving field of data analytics.

