(DEEMED TO BE UNIVERSITY) | Academic Staff College

Faculty Development Program on Data and Business Analytics Tools

Date: August 22nd to September 14th, 2022

Venue: Online

Organizer: Academic Staff College of KL University

Objectives:

- To provide participants with an overview of data and business analytics tools.
- To teach participants how to use these tools to analyze data and make informed decisions.
- To help participants develop their skills in data visualization and presentation.

Course Outline:

- Day 1: Introduction to Data Analytics
- Day 2: Data Collection and Preparation
- Day 3: Data Visualization
- Day 4: Statistical Analysis
- Day 5: Machine Learning
- Day 6: Case Studies
- Day 7: Final Exam

Instructors:

- Dr. Rishabh Mohan

Participants:

- 47 faculty members from KLEF

Evaluation:

- Participants will be evaluated on their attendance, participation, and performance on the short Assignments

Report:

The Faculty Development Program on Data and Business Analytics Tools was held from August 22nd to September 14th, 2022. The program was attended by 47 participants.

The program covered a wide range of topics, including:

- Introduction to data analytics
- Data collection and preparation
- Data visualization
- Statistical analysis
- Machine learning
- Case studies in Data Analytics
- Training Report: Introduction to Data Analytics

Day 1: Introduction to Data Analytics On the first day of the training, we covered the fundamental concepts of data analytics. The session began with an overview of data analytics and its importance in various industries. We discussed the role of data analytics in decision-making processes and how it can drive business insights. Additionally, we explored different types of data analytics, such as descriptive, diagnostic, predictive, and prescriptive analytics. The session concluded with an introduction to the tools and technologies commonly used in data analytics.

Day 2: Data Collection and Preparation The second day focused on data collection and preparation techniques. We started by understanding the importance of data quality and the challenges associated with collecting relevant and accurate data. The session covered various data collection methods, including surveys, interviews, and web scraping. We also delved into the process of data cleaning, where we learned about identifying and handling missing values, outliers, and inconsistencies in datasets. Practical exercises were conducted to reinforce the concepts discussed.

Day 3: Data Visualization On the third day, we explored the power of data visualization in conveying meaningful insights. We discussed the principles of effective data visualization, including choosing appropriate charts, colors, and labeling. The session included hands-on activities using popular data visualization tools, such as Tableau and Matplotlib. Participants learned how to create visually appealing and informative graphs, charts, and dashboards to communicate complex data in a clear and concise manner.

Day 4: Statistical Analysis The fourth day was dedicated to statistical analysis techniques commonly employed in data analytics. We reviewed the basic concepts of descriptive statistics, including measures of central tendency and dispersion. Participants gained an understanding of inferential statistics, hypothesis testing, and p-values. Additionally, we covered correlation analysis, regression analysis, and ANOVA (Analysis of Variance). Practical examples and real-world case studies were used to demonstrate the application of statistical analysis in data-driven decision-making.

Day 5: Machine Learning The fifth day introduced participants to the exciting field of machine learning. We explored different types of machine learning algorithms, including supervised learning, unsupervised learning, and reinforcement learning. The session covered popular machine learning techniques such as classification, regression, clustering, and dimensionality reduction. Practical exercises were conducted using Python libraries like scikit-learn to implement machine learning algorithms and evaluate their performance. We also discussed best practices for model selection, training, and evaluation.

Day 6: Case Studies in Data Analytics The sixth day of the training focused on real-world case studies in data analytics. Participants had the opportunity to apply the knowledge gained throughout the training to solve complex data analytics problems. The case studies covered a wide range of industries and domains, including finance, marketing, healthcare, and e-commerce. We discussed the challenges faced, the data analytics approaches used, and the outcomes achieved in each case study. Participants actively engaged in group discussions and shared their insights and recommendations.

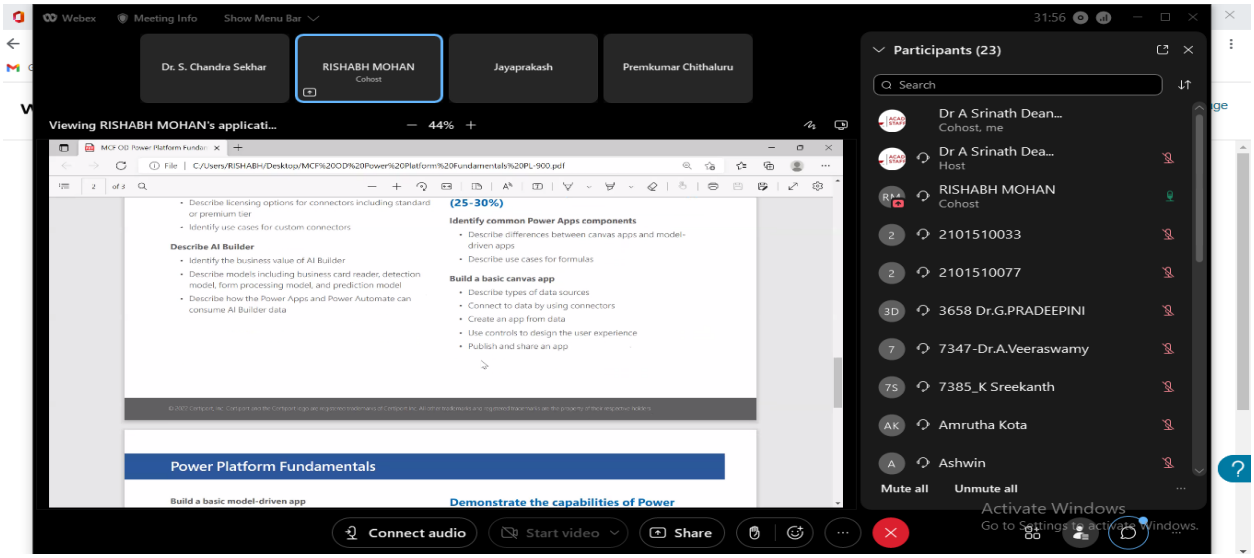
The remaining days of the FDP focused on practice of various technical tools. And the faculty got benifited from practicing what they have learnt.

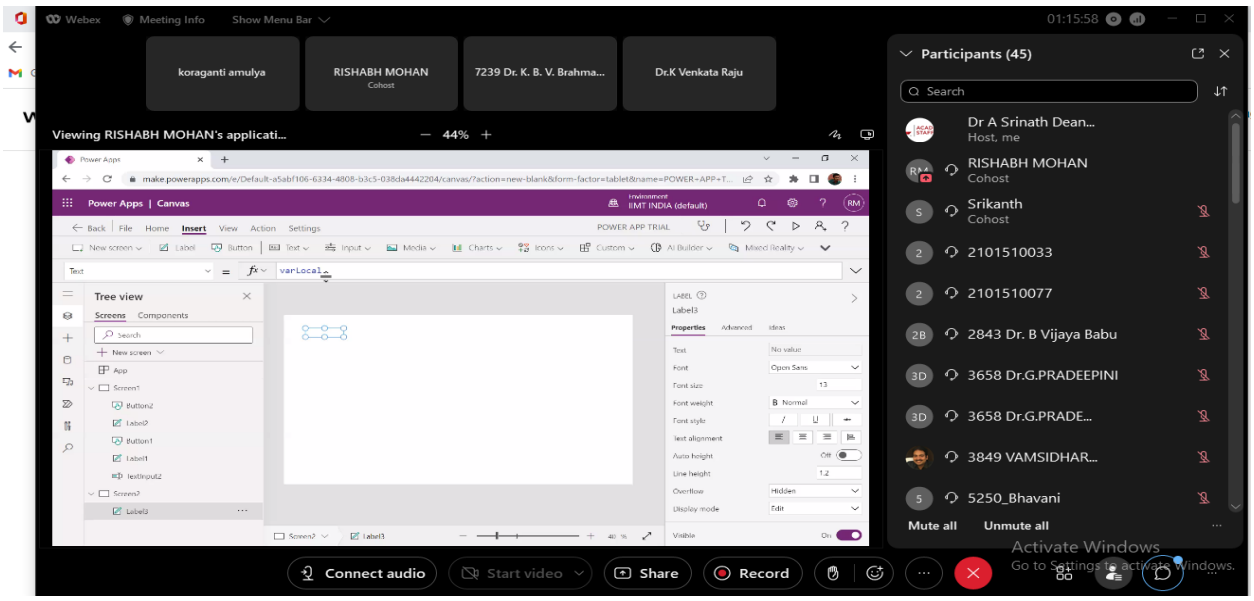
In conclusion, the training provided participants with a comprehensive understanding of data analytics. They learned the foundational concepts, techniques, and tools required for effective data analysis. Through practical exercises and case studies, participants gained hands-on experience and learned how to apply data analytics in real-world scenarios. The training

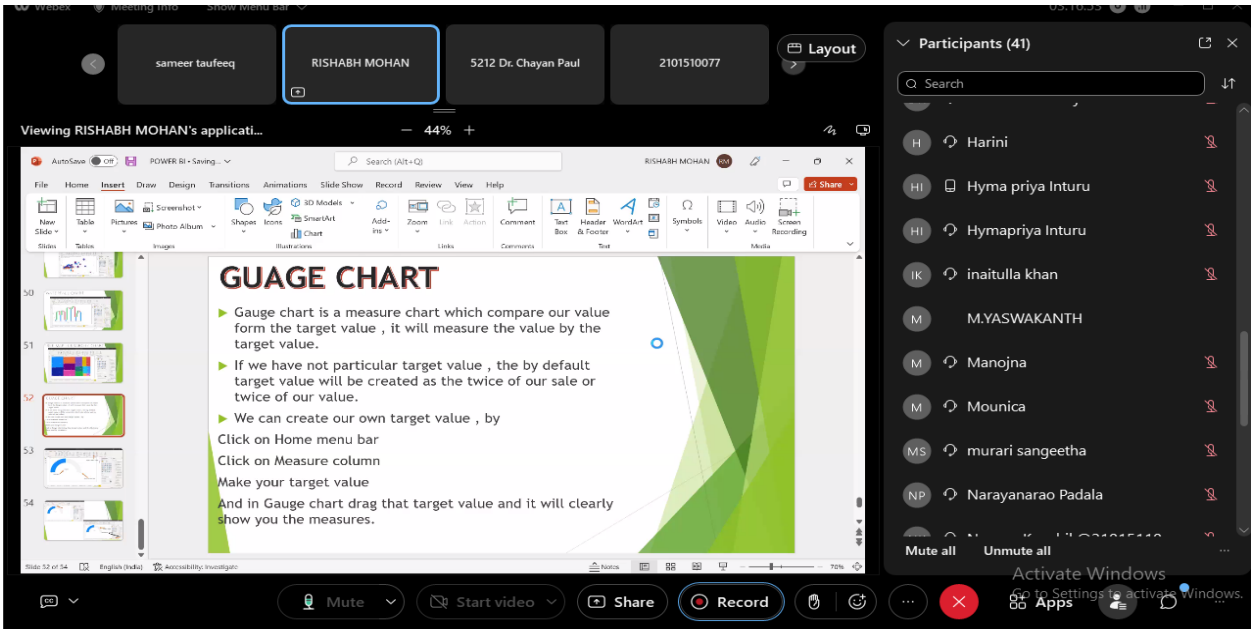
equipped them with the necessary skills to collect, prepare, analyze, visualize, and derive insights from data, empowering them to make data-driven decisions in their respective fields.

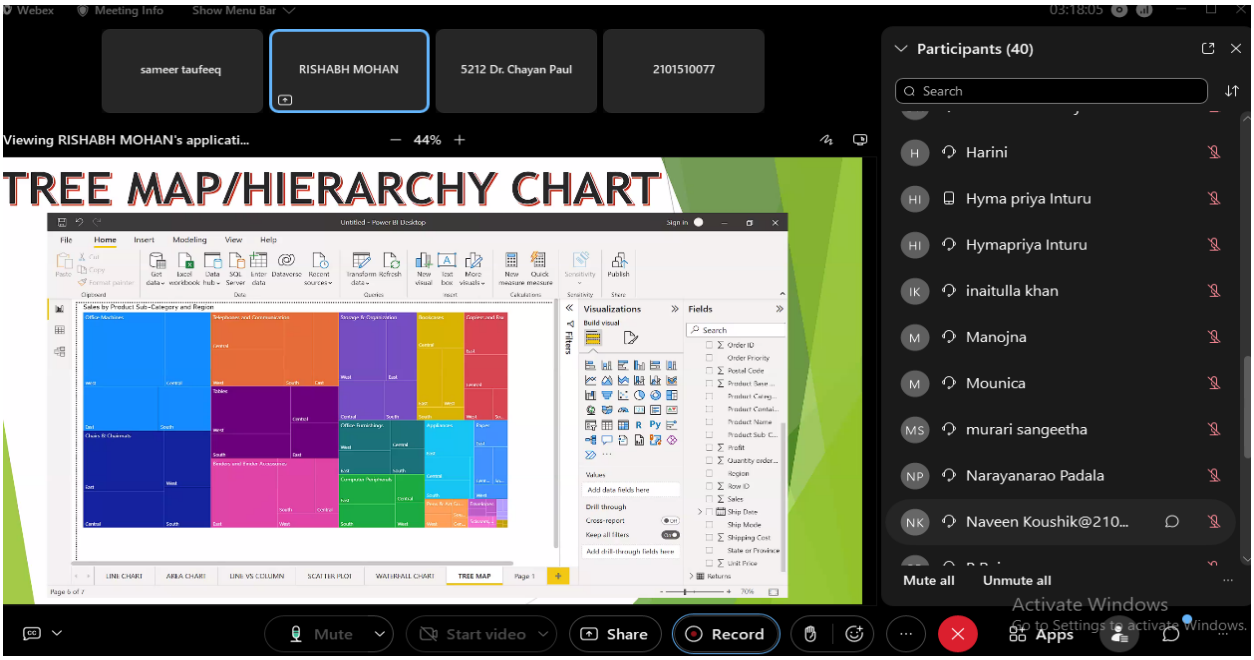
The participants found the program to be informative and engaging. They particularly appreciated the opportunity to learn from experienced instructors and to apply their new skills to real-world case studies.

The program was a valuable opportunity for participants to learn about the latest data analytics tools and techniques. The knowledge and skills that they gained will be essential for them as they continue their careers in academia and industry.









Overall, the Faculty Development Program on Data and Business Analytics Tools was a success. The program provided participants with the knowledge and skills they need to use data analytics tools to makeinformed decisions.

Principal ASC