



SRM Institute of Science & Technology

Faculty of Science and Humanities

Department of Commerce

Organized

**Seven Days Virtual Faculty Development Programme on IBM SPSS
and Structural Equation Modeling (SEM) using AMOS.**

7 Day Report in FDP

- ❖ Day 1: Analyzing data using SPSS
- ❖ Day 2: Univariate and Bivariate Analysis
- ❖ Day 3: Correlation and Regression Analysis
- ❖ Day 4: Non-Parametric Analysis
- ❖ Day 5: Factor and Cluster Analysis
- ❖ Day 6: Structural Equation Modeling using AMOS
- ❖ Day 7: Multivariate Analysis using AMOS

Online Mode Time: 6.00pm to 8.00pm Date: 10th March 2024 to 16th March 2024



SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
FACULTY OF SCIENCE AND HUMANITIES
DEPARTMENT OF COMMERCE



ORGANIZES

**Seven Days Virtual Faculty Development Programme on IBM SPSS and
Structural Equation Modeling (SEM) using AMOS.**

Day 1: Analyzing data using SPSS



Dr.S.Amutharani., Ph. D
Associate Professor & Head

PG Department of Commerce,
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Sivakasi.

Day 2: Univariate and Bivariate Analysis



Dr .R .Gowtham., Ph. D
Assistant Professor

Department of Commerce
Christ University
Bengaluru

Day 3: Correlation and Regression Analysis



Dr. A. Duraisamy.,
Dean

SRM Institute Of Science and Technology,
faculty of Science and Humanities,
Chennai

Day 4: Non-Parametric Analysis



Dr. S. Lenin., Ph. D
Assistant Professor

Department of Commerce,
SRM Institute of Science and Technology,
Faculty of Science and Humanities,
Chennai.

Day 5: Factor and Cluster Analysis



Dr. Eronimus Anthonymsamy., Ph. D
Assistant Professor

Department of Financial Administration
School of Management,
Central University of Punjab
Bathinda

Day 6: SEM using AMOS



B. Chinna Muthu
Assistant Professor,

Madras Christian College
Tambaram, Chennai

Day 7: Multivariate Analysis using AMOS



Dr. S. Dhivya Devi., Ph. D
Assistant Professor

Statistics; College of Management,
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Organizing Secretary: Dr.V.Lavanya Veeran
Dr.U.Priya
Dr.K.Sivaperumal

Organizing Convener:
Dr.R.Angayarkanni

REGISTRATION FEE RS 300

REGISTRATION LINK [CLICK HERE](#)



PROGRAM SCHEDULE

DATE: 10/03/2023

Day 1 : Analyzing Data Using SPSS

- Introduction to SPSS Content
- Importing of Data
- Defining of Variables
- Normality and Reliability of Data

DATE: 11/03/2023

Day 2 : Univariate And Bivariate Analysis

Univariate Analysis :

- Mean-Standard Deviation
- Quartiles
- Variance
- Frequency Distribution
- Graph.

Analysis:

- Chi-square test
- ANOVA-T tests

DATE: 12/03/2023

Day 3 : Correlation and Regression Analysis

- Correlation Analysis : Simple, Multiple and Partial Correlation.
- Regression Analysis : Linear and logistic Regression

DATE: 13/03/2023

Day 4: Non-Parametric Analysis

- Mann
- Whitney U Test
- Wilcoxon Signed
- Rank Test
- Kruskal
- Wallis Test
- Friedman Test

DATE: 14/03/2023

Day 5 : Factor and Cluster Analysis

Factor Analysis :

- Factor Score
- Factor Extraction
- Factor Rotation
- Factor Interpretation.

Cluster Analysis:

- Distance Metrics
- Clustering Algorithms
- Cluster Validation

DATE: 15/03/2023

Day 6: Structural Equation Modeling using AMOS

- Introduction to SEM
- Model Specification
- Measurement Model
- Model Estimation
- Model Modification and Improvement

DATE: 16/03/2023

Day 7: Multivariate Analysis using AMOS

- Confirmatory Factor Analysis (CFA)
- Structural Equation Modeling (SEM)
- Path Analysis

Below is a suggested structure for the report on the "Seven Days Virtual Faculty Development Programme on IBM SPSS and Structural Equation Modeling (SEM) using AMOS". Each day's topic is addressed with a brief overview and key points.

Day 1: Analyzing Data Using SPSS

Today marked the commencement of our Seven Days Virtual Faculty Development Programme on IBM SPSS and Structural Equation Modeling (SEM) using AMOS. The focus of the first day was on analyzing data using SPSS. SPSS (Statistical Package for the Social Sciences) is a powerful software tool used for statistical analysis in various fields.

Key Points:

- ❖ Introduction to SPSS software interface.
- ❖ Importing data into SPSS from different sources.
- ❖ Data cleaning and preparation techniques.
- ❖ Basic descriptive statistics such as mean, median, mode, standard deviation, and variance.
- ❖ Generating frequency distributions and histograms.

2: Univariate and Bivariate Analysis

On the second day of the programme, participants delved into univariate and bivariate analysis using SPSS. These analyses are fundamental in understanding the characteristics and relationships between variables in a dataset.

❖ Key Points:

- ❖ Univariate analysis: Exploring one variable at a time to understand its distribution and characteristics.
- ❖ Bivariate analysis: Examining the relationship between two variables through techniques like cross-tabulation and chi-square tests.
- ❖ Interpretation of statistical outputs from SPSS.
- ❖ Identifying patterns and trends in the data through graphical representations.

Day 3: Correlation and Regression Analysis

Day 3 focused on correlation and regression analysis, essential tools for examining the strength and direction of relationships between variables and for predicting outcomes based on predictor variables.

Key Points:

- ❖ Correlation analysis: Assessing the degree of association between two continuous variables using Pearson's correlation coefficient.
- ❖ Regression analysis: Predicting the value of one variable (dependent variable) based on one or more predictor variables (independent variables) using techniques like linear regression.
- ❖ Interpreting regression coefficients and significance levels.
- ❖ Assumptions and limitations of regression analysis.

Day 4: Non-Parametric Analysis

Participants explored non-parametric analysis techniques on the fourth day, which are used when data do not meet the assumptions of parametric tests.

Key Points:

- ❖ Introduction to non-parametric tests such as Mann-Whitney U test, Kruskal-Wallis test, and Spearman's rank correlation coefficient.
- ❖ When to use non-parametric tests.
- ❖ Conducting and interpreting results of non-parametric tests in SPSS.
- ❖ Advantages and limitations of non-parametric tests compared to parametric tests.

Day 5: Factor and Cluster Analysis

The fifth day was dedicated to factor and cluster analysis, advanced techniques used for data reduction and grouping similar observations.

Key Points:

- ❖ Factor analysis: Exploratory and confirmatory factor analysis, dimensionality reduction, and identifying underlying factors or latent variables.
- ❖ Cluster analysis: Identifying natural groupings or clusters within the data based on similarities between observations.
- ❖ Practical applications of factor and cluster analysis.
- ❖ Interpreting output from factor and cluster analysis in SPSS.

Day 6: Structural Equation Modeling Using AMOS

On the penultimate day, participants delved into structural equation modeling (SEM) using AMOS, a powerful technique for testing complex theoretical models and examining relationships between latent variables.

Key Points:

- ❖ Introduction to SEM and its components: measurement model and structural model.
- ❖ Building and testing structural equation models in AMOS.
- ❖ Assessing model fit and interpreting results.
- ❖ Advanced topics in SEM: mediation, moderation, and multi-group analysis.

Day 7: Multivariate Analysis Using AMOS

The final day of the programme focused on multivariate analysis techniques using AMOS, providing participants with a comprehensive understanding of analyzing complex relationships among multiple variables.

Key Points:

- ❖ Multivariate analysis techniques such as path analysis, confirmatory factor analysis, and latent growth modeling.
- ❖ Integrating different statistical techniques within a single model.
- ❖ Practical applications and case studies demonstrating the use of multivariate analysis in research.
- ❖ Future directions and advanced topics in multivariate analysis.

This report encapsulates the key topics covered during each day of the Seven Days Virtual Faculty Development Programme, providing participants with a solid foundation in statistical analysis using SPSS and SEM techniques using AMOS.

List of Participants

Name of the Participant	Designation	College/ University/ Institution
Nancy Lydia E	Research Scholar	Bishop Heber college
M.Shobana	Research Scholar	Auxilium College Autonomous Vellore Thiruvalluvar University
WASEEM BASHIR	Assistant Professor	SRMIST KATTANKALLATHUR CHENNAI
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AARTHI SUBHA M	Student	Francis Xavier Engineering College
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Akshaya Lakshmi	Assistant Professor	Dg vaishnav college
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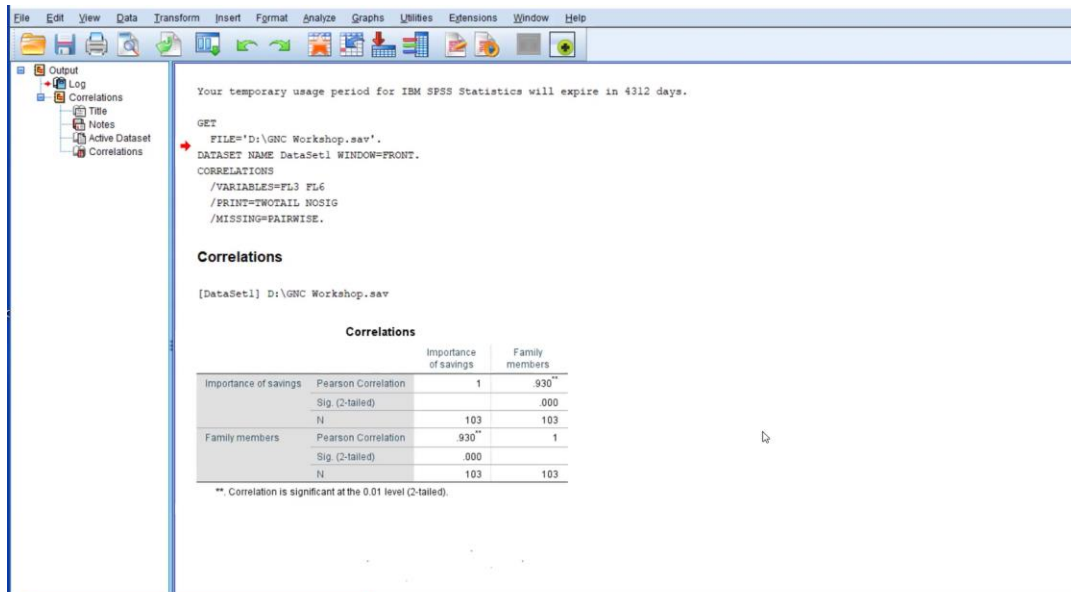
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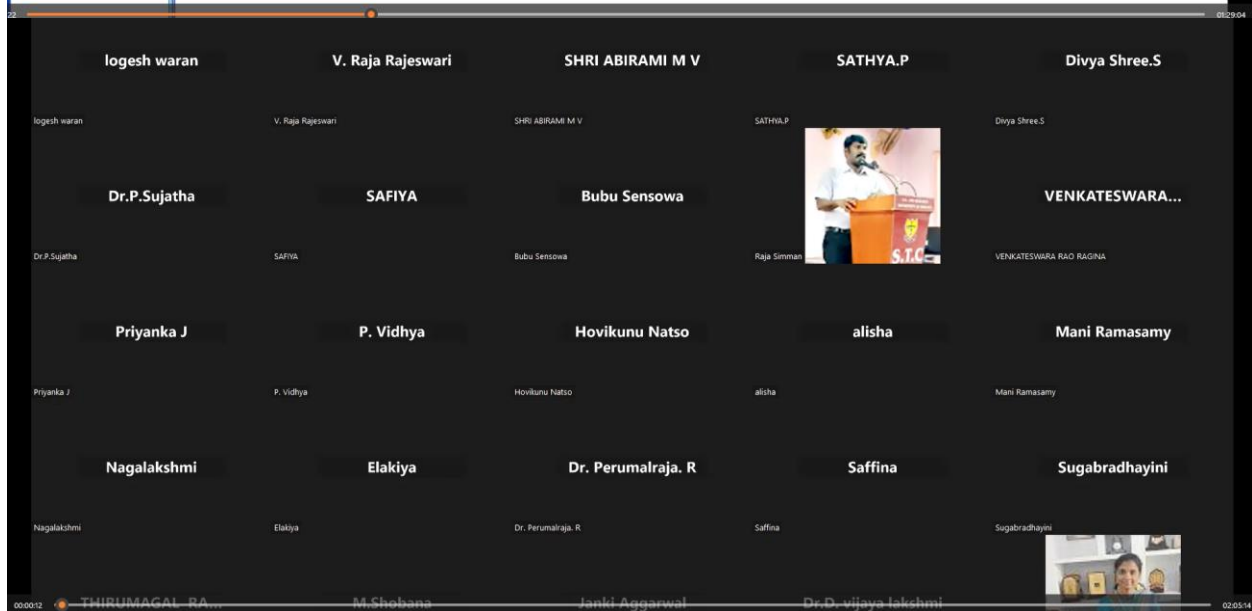
Gallery



Correlations

	Importance of savings	Family members
Importance of savings	Pearson Correlation	.930**
	Sig. (2-tailed)	.000
	N	103
Family members	Pearson Correlation	.930**
	Sig. (2-tailed)	.000
	N	103

** Correlation is significant at the 0.01 level (2-tailed).



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