RESEARCH EXCELLENCE TRAINING ACADEMY

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STRUCTURAL EQUATION MODELLING (SEM)

with LISREL & AMOS

1.Introduction to Structural Equation Modelling (SEM) Approach
2.What is SEM and Why use SEM?
3.Common SEM Software used in Business Research, Advantages & Disadvantages of the SEM software
4.SEM Approach Steps Approach & SEM Limitations
5.Key Structural Equation Modelling (SEM) Terms
6.Measurement Instruments Reliability
7.Measurement Instruments Validity
8.CFA & Structural Model Fit Indicators
9.Structural Model Path Coefficients
10.Bootstrapping (P-Values & T-Statistics)
11.Practical with Smart PLS, LISREL & AMOS
12.Interpretation and Discussion of Results





Day 1

Session 1: Introduction to Structural Equation Modelling (SEM) Approach

1.What is SEM?
2.Why use SEM?
3.Common SEM Software used in Business Research
4.Advantages & Disadvantages of the SEM software
5.Common SEM Software used in Business Survey Research
6.SEM Approaches (SEM - Covariance-Based Approach & Component-Based Approach)
7.SEM Approach Steps Approach &
8.SEM Limitations

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Session 2: Key Structural Equation Modelling (SEM) Terms

1.Measurement Model
- Latent Variables
- Manifest Variables

2.Measurement Instruments Reliability
- Cronbach Alpha Coefficient
- Composite Reliability Coefficient

3.Measurement Instruments Validity
- Convergent Validity
- Discriminant Validity

4.Model Fit Indicators
- Chi-Square,
- GFI, CFI, IFI, TLI, NFI
- RMSEA

5.Structural Model
6.Bootstrapping (P-Values & T-Statistics)

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Day 2

Session 1: SEM Practical with LISREL Software - CFA

1.SEM in LISREL Environment
2.Variables in LISREL Environment?
3.Parameters in LISREL Environment
4.reating a SEM Project in LISREL Environment
5.Confirmatory Factor Analysis (CFA) Model in LISREL Environment
6.Measurement Model Assessment - Reliability Assessment Indicators:
- Cronbach Alpha Coefficient Calculation
- Composite Reliability Coefficient Calculation

7.Measurement Model Assessment - Validity Assessment Indicators:
- Convergent Validity
- Factor Loadings
- Item-to-Total Correlation Values
- Discriminant Validity
- Construct Correlation Matrix
- Average Variance Extracted Vs Shared Variance

8.CFA Model Fit Assessment Indicators
- R-Square & Chi-Square
- GFI, CFI, NFI, IFI, TLI & RMSEA

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Session 2: Key Structural Equation Modelling (SEM) Terms

1.Creating a SEM Path Analysis Project in LISREL Environment
2.Path Analysis/ Structural Modelling in LISREL Environment
3.Structural Model Specifications
4.Structural Model Path Coefficients
- Standardised Regression Weights
- Positivity or Negativity of Path Coefficients

5.Bootstrapping in LISREL Environment
- P-Values
- T-Statistics

6.Structural Model Fit Assessment Indicators
- Chi-Square
- GFI, CFI, NFI, IFI, TLI &
- RMSEA

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Day 3

Session 1: SEM Practical with AMOS Software – Confirmatory Factor Analysis (CFA)

1.SEM in AMOS Environment
2.Variables in AMOS Environment?
3.Creating a SEM Project in AMOS Environment
4.Confirmatory Factor Analysis (CFA) Model in AMOS Environment
5.Measurement Model Assessment - Reliability Assessment Indicators:
- Cronbach Alpha Coefficient Calculation
- Composite Reliability Coefficient Calculation

6.Measurement Model Assessment - Validity Assessment Indicators:
7.Convergent Validity
- Factor Loadings
- Item-to-Total Correlation Values

8.Discriminant Validity
- Construct Correlation Matrix
- Average Variance Extracted Vs Shared Variance
- CFA Model Fit Indicators - R-Square, Chi-Square, GFI, CFI, NFI, IFI, TLI & RMSEA

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Session 2: Path Analysis/ Structural Model

1.Creating a SEM Path Analysis Project in AMOS Environment
2.Path Analysis/ Structural Modelling in AMOS Environment
3.Structural Model Specifications
4.Structural Model Path Coefficients
- Standardised Regression Weights
- Positivity or Negativity of Path Coefficients

5.Bootstrapping in AMOS Environment
- P-Values

6.Structural Model Fit Assessment Indicators
- Chi-Square
- GFI, CFI, NFI, IFI, TLI &
- RMSEA

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