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Required Quiz 11.1: Week 11 Quiz

Due Dec 12 at 11:59pm Points 20 Questions 20
 Available Nov 29 at 12am - Dec 12 at 11:59pm Time Limit 30 Minutes

Submission Details:

Time: 9 minutes
 Current Score: 18 out of 20
 Kept Score: 18 out of 20

Instructions



⌚ Learning Outcome Addressed

1. Apply factor and cluster analysis real-time data
2. Apply various statistical tools in the business scenario

It is now time to assess your understanding of the concepts covered so far in this module.

Quiz Instructions

- The time limit for this quiz is 30 mins. Kindly complete and submit this quiz within this time.
- You have only one attempt to answer the quiz.
- All quiz attempts must be attempted by **Friday, December 12, 2025, by 11:59PM IST**.

Note: This is a graded quiz and counts towards programme completion.

This quiz was locked Dec 12 at 11:59pm.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	9 minutes	18 out of 20

Score for this quiz: 18 out of 20

Submitted Dec 7 at 10:06pm

This attempt took 9 minutes.

Question 1

1 / 1 pts

Which one of the following is a typical factor analysis example in the study of consumer behavior?

To predict future purchasing trends based on current sales data

To identify the underlying factors that capture consumer preferences and attitudes by analyzing survey data collected on larger number of variables

To compare the spending habits of different demographic groups

To calculate the probability of repeat purchases from loyal customers

Correct!

That's correct

Question 2

1 / 1 pts

What type of analysis does factor analysis primarily involve?

- Classification of objects based on defined categories
- Grouping variables based on homogeneity among them
- Predicting outcomes from independent variables
- Segmentation of data into distinct labels

That's correct

Correct!

Question 3

1 / 1 pts

In what area of business management is classification commonly applied for credit-rating scoring?

- Finance
- Supply chain management
- Healthcare
- Market segmentation

That's correct

Correct!

Question 4

1 / 1 pts

Which of the following indicates that factor analysis is appropriate according to Bartlett's test?

- KMO value < 0.50
- Correlation coefficient < 0.30
- Significant chi-square result ($p < 0.05$)
- Non-significant chi-square result

That's correct

Correct!

Question 5

0 / 1 pts

How many of the three measures (Significant Correlation, KMO, and Bartlett's Test) need to be satisfied to establish the fitness of a model?

- Two out of three measures must be satisfied
- None of the measures need to be satisfied
- At least one of the three measures must be satisfied
- All three measures must be satisfied

Correct Answer

You Answered

That's incorrect

Question 6

1 / 1 pts

Which of the following statements about the eigenvalues in factor extraction is true?

- Eigenvalues represent the total number of variables in the analysis.
- An eigenvalue greater than 1 indicates a significant factor.
- Eigenvalues are irrelevant to factor analysis outcomes.
- Eigenvalues are calculated only after factor rotation is performed.

Correct!

That's correct

Question 7

1 / 1 pts

How do high extracted communalities affect the interpretation of factor analysis?

- They imply that the data is random noise
- They indicate the model is poorly fitted
- They require the extraction of additional factors
- They suggest the factors explain a large portion of the variance in the variables

Correct!

That's correct

Question 8

1 / 1 pts

What happens to the KMO statistic as the average correlations between variables increase?

- It fluctuates randomly
- It tends to increase
- It decreases
- It remains unchanged

Correct!

That's correct

Question 9

1 / 1 pts

In a factor analysis study, if a variable has a loading of 0.45 on a factor, and the cut-off value is set at 0.5, what does this indicate?

Correct!

- The factor extraction process needs to be repeated.
- The variable is not significantly associated with the factor.
- The variable is significantly associated with the factor.
- The variable is moderately associated with the factor.

That's correct

Question 10

1 / 1 pts

What does the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy assess?

Correct!

- The number of observed variables
- The correlation between independent variables
- The suitability of data for factor analysis
- The quality of the sampling methods

That's correct

Question 11

1 / 1 pts

What is one of the objectives of factor analysis?

Correct!

- To focus only on univariate analysis
- To discover the basic structure underlying a set of measures
- To increase the complexity of data
- To create a prediction model

That's correct

Question 12

1 / 1 pts

Which rotation method in factor analysis is primarily used when factors are expected to be uncorrelated?

Correct!

- Quartimax Rotation
- Varimax Rotation
- Oblimin Rotation
- Promax Rotation

That's correct

Question 13

1 / 1 pts

What technique is often used in factor analysis for data transformation?

- Descriptive statistics
- Principal Component Analysis (PCA)
- Univariate analysis
- Linear regression

That's correct

Correct!

Question 14

1 / 1 pts

Which of the following statements is true regarding the extraction of factors in factor analysis?

- Variables with low factor loadings are often discarded from the analysis.
- Factor extraction does not consider the variance explained by the factors.
- The factor extraction process is complete before interpreting factor loadings.
- All variables will have high loadings on all extracted factors.

That's correct

Correct!

Question 15

1 / 1 pts

In which situation is it most appropriate to use Varimax rotation in factor analysis?

- When analyzing data with known correlations between variables
- When you need a detailed understanding of each variable's contribution to all factors
- When you want to explore the relationships between variables without assuming independence

- When the primary goal is to achieve a clear and interpretable factor structure with independent factors

That's correct

Correct!

Question 16

1 / 1 pts

What kind of relationship does factor analysis capture?

Correct!

- Interdependent relationship
-
- They use one dependent variable and multiple independent variables
-
- Independent – dependent relationship
-
- They use one dependent variable and one independent variable

That's correct**Question 17**

1 / 1 pts

What are classification methods primarily used for?

Correct!

-
- Transforming complexity into actionable information based on segments or categories
-
-
-
-
-

That's correct**Question 18**

1 / 1 pts

What is one of the key challenges mentioned regarding the assessment of personality using multiple dimensions?

Correct!

-
- It complicates data interpretation due to the large number of variables
-
-
-
-

That's correct**Question 19**

1 / 1 pts

In which stage are the pre-defined labels determined in the classification process?

-
-
-
-

Correct!

Before the analysis begins

That's correct

Question 20

0 / 1 pts

In which factor extraction method is the total variance distributed among all extracted factors?

Correct Answer

Principal Axis Factoring

You Answered

Canonical Correlation Analysis

Hierarchical Clustering

Maximum Likelihood Estimation

That's incorrect

Quiz Score: **18** out of 20

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