Module 6

Data Analysis & Report Writing

- After collection of data the next step is to pr
  and interpretation.

- There are two parts in processing data
  - Data Analysis
  - Interpretation of data

Steps in processing of data

- Preparing raw data
- Editing
- Coding
- Tabulation
- Summarising the data
- Usage of statistical data

1   Preparing raw data

- The information collected may be illegible, in
- Scattered information
- This can be organised through
  - Editing
  - Coding
  - Tabulation

2.Editing

- The purpose of editing is to eliminate errors

- It involves inspection & correction of each qu

- The main role of editing is to identify ambigu
  response.

- The editing is the activity of inspecting, corre
  correct data

2.Editing

- This can be done in two ways
  - Field editing
  - Office editing

2.Editing – Field Editing

- It should be done when the study is still under p

- This is to make sure that proper procedure is fol respondents, interview them and record their re

- Such editing is more effective when done on sar after the interview. The investigator must not ju doing field editing.

- The reason to field editing is
    - Inappropriate respondents
    - Incomplete interviews
    - Improper understanding
    - Lack of consistency -
    - Legibility – clear on same spot
    - Fictitious interview- cheating by interviewer

2.Editing – Office Editing

- Such type of editing relates to the time when process has been completed.

- Here a single or common editor corrects the wrong place, entry in wrong unit e.t.c.

- As a rule all the wrong answers should be dr results.

- It should be done after the collection of the

- This can be done by interviewer, or supervis

- Office editing need more experts who under respondents.

2.Editing – Office Editing

- Eg: I don't drink coffee ,
  - My favourite brand is BRU
- It is inconsistent
- 1.was the respondent lying?
- 2. did the interviewer record wrongly?

<u>EDITING REQUIRES SOME CAREFUL CONSIDERATIONS:</u>

- Editor must be familiar with the interviewer's mind set, obj the study.

- Different colors should be used when editors make entry in

- They should initial all answers or changes they make to the

- The editors name and date of editing should be placed on t

3. Coding

- It refers to transforming edited questionnair ready for analysis.

- It involves assigning numbers or other symbo

  - Guidelines

- Establishment of appropriate category
  - Internal –X   external -Y
- Mutually exclusive
  - Student , professional, sales, manager

4. Tabulation

- It refers to counting the numbers of cases th
categories.

- The results are summarized in the form of st
data is divided into groups and sub-groups.

- The counting and placing of data in a particu
are done.

- The tabulation involves
  - Sorting and counting
  - Summarising the data

4. Tabulation – summarising d

Income	Tally marks
1000	IIII
2000	IIII IIII
3000	IIII IIII III

4. Tabulation – Types

1.Simple or one way table :

the multiple choice questions which allow only one-way tabulation or univariate.

the questions are pre-determined and consist of responses falling into a particular category percentage.

There may be two types of univariate tabulation
1. Questions with only one response
2. Multiple response to question

4. Tabulation – Types

1. Questions with only one response

Table No 1

Study of number of children in a family

No of children	Family	%
0	10	10
1	20	20
2	30	30
3	40	40
	100	10

4. Tabulation – Types

2. Questions with multiple response

Table No 1

Choice of an automobile
What you like about your Car

Attributes	No of respondents
Body	15
Design	20
Colour	25
Mileage	40
Safelty	20

4. Tabulation – Types

2. Cross tabulation or two-way table

This is also known as Bivariate Tabulation.
The data may include two or more variables.

Eg : popularity of health drink among families having different
Suppose 500 families are contracted and data collected is as follows.

Income per month	No of children per family				
	0	1	2	3	4
< 1000	5	0	8	9	11
1001-2000	10	5	8	10	13
2001-3000					

Data Validation

- Data validation is a process that ensures the clear data to the programs, applications and

- It checks for the integrity and validity of data different software and its components.

- Data validation ensures that the data compli and quality benchmarks.

- Data validation is also known as input validat

Some of the types of data vali

1. Code validation
2. Data type validation
3. Data range validation
4. Constraint validation
5. Structured validation

Report Writing and Presentat

WHAT IS IT?

❖ An analysis of the data of the investigation, written in an obje logical and factual way.

❖ Any matter on which defini information is required.

"Research reports are de
accurate accounts of the
disciplined studies accon
solve problems or to reve
knowledge." (Busha and
1988).

1. Meaning of Research I

- Research report writing is the oral or writ
  the evidence and the findings in such deta
  readily understood and accessed by the
  enable him to verify the validity of the con

- According to American Marketing Society
  Convey to interested persons the whole
  sufficient detail and to enable each reader
  data and to determine himself the validity
  It is covers, **Dissemination, Presents the**
  information and knowledge to others, to
  the generalizations, to encourage others t
  on the same or allied problem.

Structure of Research Report

- Generally, a research report, whether it is ca
- 1) The Priliminary i.e. preface pages
- 2) The text of the report / Main body of the r
- 3) The Reference material.

PRELIMINARY SECTION

- ◉ Title page
- ◉ Certification
- ◉ Candidate Declaration
- ◉ Preface including Acknowled
- ◉ Table of Content
- ◉ List of Tables
- ◉ List of figures
- ◉ List of Abbreviation

CHAPTER 1-INTRODUCTION

1.0 Introduction

1.1   Background of the study

1.2   Problem Statement

1.3   Purpose and objective of th

1.4   Research Questions

1.5   Definition of Terms

1.6   Significant of the study

1.7   Conclusion

CHAPTER 2-LITERATURE REVIEW

2.0 Introduction

2.1 Body of the literature

    2.1.1 General area of research

    2.1.2 Underlying theory

    2.1.3 Variables used from previous

2.2 Theoretical Framework

2.3 Hypotheses

2.4 Conclusion

CHAPTER 3 – RESEARCH METHODOLOGY

3.0 Introduction

3.1 Research Design

3.2 Variable and Measurement

3.3 Questionnaire design

3.4 Population and Sample

3.5 Scope of the study

3.6 Data analysis method
   3.6.1 Goodness of data
   3.6.2 Inferential analysis

3.7 Conclusion

CHAPTER 4- DATA COLLECTION, DATA ANALYSIS

4.1 Introduction

4.2 Goodness of Measure
  4.2.1 Representativeness of data
  4.2.2 Validity test
  4.2.3 Reliability test

4.3 Inferential analysis
  4.3.1 Descriptive analysis
  4.3.2 Test of difference
  4.3.3 Test of relationship
   • Correlation analysis
   • Hypothesis testing

4.4 Conclusion

CHAPTER 5-DISCUSSION AND CONCLUSION

5.1 Recapitulation of major findings

5.2 Discussion

5.3 Implication

5.3.1 Theoretical Implication
5.3.2 Practical Implication

5.4 Limitation

5.5 Recommendation for future rese

5.6 Conclusion

REFERENCE MATERIAL

The reference material is generally divided as

- 1. Bibliography (APA Style or ..)
- 2. Appendices (SPSS output & Data Stream)
- 3. Glossary of terms (if any)
- 4. Index (if any)

Types Of reports

- *Technical Report*
- *Popular Report*

Technical Report

In the technical report the main emphasis is o

• the methods employed,

• assumptions made in the course of the study

• the detailed presentation of the findings incl
and supporting data.

Popular Report

- The popular report is one which gives empha
  attractiveness.

- The simplification should be sought through
  minimization of technical, particularly mathe
  liberal use of charts and diagrams.

- Attractive layout along with large print, man
  occasional cartoon now and then is another
  the popular report.

- Besides, in such a report emphasis is given o
  policy implications. We give below a general
  report.

STRUCTURE OF A BUSINESS R

1. Title page
2. Letter of Transmittal (covering lett
3. Table of contents
4. Executive summary
5. Introduction
6. Main Body
7. Conclusion
8. Appendix
9. References & Bibliography

Characteristics of good report

1) Attractive

2) Clear Topic

3) Balanced Language

4) No repetition of facts

5) Statement of scientific facts

6) Practicability

7)Description of the difficulties and the shortc

Importance of Research Repo

- Communicates the information
- Helps in evaluation
- Facilitates measuring performance
- Predicts future trends

Presentation – Essential Chara

- Objectives :
- Preparation
- First impression
- Facial expression
- Visual aids
- Audience involvements
- Effective conclusion

Elements of Presentation

- Presenter
- Specific content with a definite objective
  - Why who where when what and how
- Audience
  - Who
  - Why
  - Their background
  - How many

Factors affecting Presentation

- Audience analysis
- Personal appearance
- Opening and closing of presentation
- Language
- Body language
- Use of visuals
- Organization of presentation
- Voice
- Answering the questions

Processing of data--Editing, Codi
and tabulation

- After collecting data, the method of converti
  meaningful statement; includes

- **Data processing, Data analysis, and Data int
  presentation.**

- Data reduction or processing mainly involves
  necessary for preparing the data for analysis
  manipulation) could be manual or electronic

- It involves editing, categorizing the open-enc
  computerization and preparation of tables a

Editing data:

• **Information gathered during data collection**

Example: Data collected through questionna have answers which may not be ticked at questions may be left unanswered.

Sometimes information may be given in reconstruction in a category designed for a daily/monthly income in annual income and so

The researcher has to take a decision as to ho

- Editing also needs that data are relevant and
  are modified.

- Occasionally, the investigator makes a mista
  impossible answer. "How much red chilies d
  The answer is written as "4 kilos". Can a fam
  four kilo chilies in a month? The correct ansv

Coding of data:

- Coding is translating answers into numerical numbers to the various categories of a varial analysis.

- Coding is done by using a code book, code sh card.

- Coding is done on the basis of the instruction The code book gives a numerical code for ea

Data classification/distribution

• Sarantakos (1998: 343) defines distribution classification of scores obtained for the various particular variable.

There are four types of distributions:

1. Frequency distribution
2. Percentage distribution
3. Cumulative distribution
4. Statistical distributions

Frequency distribution:

- In social science research, frequency distribu... presents the frequency of occurrences of cer... distribution appears in two forms:

- Ungrouped: Here, the scores are not collapse... distribution of ages of the students of a BJ (N... (e.g., 18, 19, 20, and so on) will be presented... distribution.
Grouped: Here, the scores are collapsed into... scores are presented together as a group. Fo... age distribution groups like 18-20, 21-22 etc.

Percentage distribution:

It is also possible to give frequencies not in ab.
percentages.

For instance instead of saying 200 respondent
monthly income of less than Rs. 500, we can s
respondents have a monthly income of less th

Cumulative distribution:

* It tells how often the value of the random va
  equal to a particular reference value.

Statistical data distribution:

- In this type of data distribution, some measu out of a sample of respondents.

- Several kind of averages are available (mean researcher must decide which is most suitab

- Once the average has been calculated, the q representative a figure it is, i.e., how closely around it.

- Are most of them very close to it or is there variation?

Tabulation of data:

After editing, which ensures that the informat
accurate and categorized in a suitable form, th
in some kinds of tables and may also undergo
statistical analysis.

- Table can be prepared manually and/or by c

- For a small study of 100 to 200 persons, ther
  tabulating by computer since this necessitate
  punched cards.

- But for a survey analysis involving a large nu
  requiring cross tabulation involving more tha
  tabulation will be inappropriate and time co

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clear data to the programs, applications and

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different software and its components.

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