Ex. No.4 **SAMPLING DESIGN**

Date:

Aim:

To define the steps with cases to select the appropriate sampling design in research work

Algorithms:

1. Define the population: Population is defined in terms of:

Defining the universe or population of interest is the first step in any sample design. The accuracy of the results in any study depends on how clearly the universe or population of interest is defined.

Case:If we are monitoring the sale of a new product recently introduced by a company,say (shampoo sachet) the population will be:

(a) ***Element*** - Company's product
(b) ***Sampling unit*** - Retail outlet, super market
(c) ***Extent*** - Hyderabad and Secunderabad
(d) ***Time*** - April 10 to May 10, 2006

2. Identify the sampling frame:

It is important to note that our sampling frame should be highly representative of the population of interest.

Sampling frame could be,

(a) Telephone Directory
(b) Localities of a city using the municipal corporation listing
(c) Any other list consisting of all sampling units.

Case: You want to learn about scooter owners in a city. The RTO will be the frame,which provides you names, addresses and the types of vehicles possessed.

3. Specify the sampling unit:

Individuals who are to be contacted are the sampling units. If retailers are to be contacted in a locality, they are the sampling units.

Case: Sampling unit may be husband or wife in a family. The selection of sampling unit is very important. If interviews are to be held during office timings, when the heads of families and other employed persons are away, interviewing would under-represent employed persons, and over-represent elderly persons, housewives and the unemployed.

4. Selection of sampling method: This refers to whether

(a) Probability

i) Simple random sampling,
ii) Stratified random sampling
iii) Systematic random sampling
iv) Cluster sampling

(b) Non-probability

i) Convenience sampling:
ii) Quota sampling
iii) Purposive sampling
iv) Snowball sampling

5. Determine the sample size:

The sample size depends upon the type of study that is being conducted.

6. Specify the sampling plan:

A sampling plan should clearly specify the target population. Improper defining would lead to wrong data collection.

Case:This means that, if a survey of a household is to be conducted, a sampling plan should define a "household" i.e., "Does the household consist of husband or wife or both", minors etc.,

7. Select the sample: This is the final step in the sampling process.

Result:

Hence we determined the steps to select appropriate research design.

Ex. No.5 **MEASUREMENT SCALE**

Date:

Question:

Show the list of variable and to classify them as a Nominal, Ordinal, Interval and Ratio Scale

Answer:

Measurement:

Measurement is assigning numbers or other symbols to characteristics of objects being measured,according to predetermined rules.

Scaling:

Scaling is the generation of a continuum upon which measured objects are located. Scale is a quantifying measure.

Measurement Scales:

These are of four kinds of scales, namely:

1. Nominal scale
2. Ordinal scale
3. Interval scale
4. Ratio scale

1. Nominal scale:

In this scale, numbers are used to identify the objects. For example, University Registration numbers assigned to students, numbers on their jerseys.

For instance, a customer survey asking

1. What is your Gender?
   - M- Male
2. What is your Political preference?
   - Independent
3. Where do you live?
   - Suburbs

- F- Female
- Democrat
- Republican
- City
- Town

2. Ordinal Scale (Ranking Scale)

Ordinal scale data can be presented in tabular or graphical formats for a researcher to conduct convenient analysis of collected data. These methods are generally implemented to compare two or more ordinal groups.

These scales are generally used in market research to gather and evaluate relative feedback about product satisfaction, changing perceptions with product upgrades etc.

For example, a semantic differential scale question such as:

How satisfied are you with our services?

Very Unsatisfied – 1

Unsatisfied – 2

Neutral – 3

Satisfied – 4

Very Satisfied – 5

3. Interval Scale:

'Interval' indicates 'distance between two entities', which is what Interval scale helps in achieving.

Interval Scale Examples: The following questions fall under the Interval Scale category:

How many hours you spend to do class assignment every day?

(a) < 30 min.

(b) 30 min. to 1 hr.

(c) 1 hr. to 1½ hrs.

(d) > 1½ hrs.

4. Ratio Scale

Ratio scale is a special kind of internal scale that has a meaningful zero point. With this scale,length, weight or distance can be measured. In this scale, it is possible to say, how many timesgreater or smaller one object is being compared to the other.

Example:

What is your weight in kilograms?

a) Less than 50 kilograms
b) 51- 70 kilograms
c) 71- 90 kilograms
d) 91-110 kilograms
e) More than 110 kilograms

Ex. No.6 **QUESTIONNAIRE AND HYPOTHESIS**

Date:

AIM:

To design questionnaire and to develop Hypothesis statements based on given research topics as,

"A study on perception towards the usage of Library among students"

Procedure:

Steps to Prepare Questionnaire:

1. Decide the information required:
2. Define the target respondent:
3. Choose the methods(s) of reaching your target respondent:
   Choose the methods(s) of reaching your target respondent.
   - *Personal interviews*
   - *Group or focus interviews*
   - *Mailed questionnaires*
   - *Telephone interview*
4. Decide the question content:
5. Develop the question wording:
6. Put question into a meaningful order and format:
   - *Opening questions.*
   - *Question flow*
   - *Question variety*
   - *Closing question*
7. Check the length of the questionnaire
8. Pre-test the questionnaire:
9. Develop the final survey form:

Steps to develop Hypothesis:

1. Ask a question
2. Do some preliminary research:
3. Formulate your hypothesis:
4. Refine your hypothesis
5. Phrase your hypothesis in three ways:
6. Write a null hypothesis

The null hypothesis is the default position that there is no association between the variables. The null hypothesis is written as H_0, while the alternative hypothesis is H_1 or H_a.

H_0: The number of lectures attended by first-year students has no effect on their final exam scores.

H_1: The number of lectures attended by first-year students has a positive effect on their final exam scores.

Result:

Hence we designedquestionnaire and hypothesis statement according to the given research topic.

Output 1:

"A study on perception towards the usage of Library among students"

Hypothesis:

H_0 = There is no significant difference between male and female students in accessing digital content books

H_a = There is significant difference between male and female students in accessing digital content books

Questionnaire:

1. Name_____

2. Roll No.: _____

3. Gender:

- Male
- Female

4. In Which Year you are studying?

- 1st Year

- 2nd Year
- 3rd Year

5. Department you belong to:

- Arts and Social science
- Science and Technology
- Professional Studies

6. How often do you visit the Library?

- Every Day
- 2-3 times
- Weekly
- Rarely
- Never

7. Overall you are satisfied with the service you receive at the library?

- Extremely Satisfied
- Somewhat Satisfied
- Neither Satisfied nor Un satisfied
- Somewhat unsatisfied
- Extremely unsatisfied

8. What do you do when you come to the library? Please Tick:

	Often	**Some times**	**Never**
Access the Computer			
Use Study room			
Meet with other students			
Look for Journals			
Look for books			
Ask for help information desk			
Quick Study			

9. Do you know how the book was ordered in the library?

- Yes
- No

10. How easy to find using Book from the library?

- Very Easy
- Somewhat easy
- Neither easy nor difficult
- Very difficult
- Very difficult
- Have not used

11. Have you ever read a library instruction?

- Yes
- No

12. How often you use the library video?

- Every Day
- 2-3 times
- Weekly
- Rarely
- Never

13. How often you use the E-library Books?

- Every Day
- 2-3 times
- Weekly
- Rarely
- Never

14. How easy to find using eBook from the library website?

- Very Easy
- Somewhat easy
- Neither easy nor difficult
- Very difficult
- Very difficult
- Have not used

15. How often you use the Library Website?

- Every Day
- 2-3 times
- Weekly
- Rarely
- Never

16. How easy to find using Journal article from the library?

- Very Easy
- Somewhat easy
- Neither easy nor difficult
- Very difficult
- Very difficult
- Have not used

17. How can the library or its service be improved, if at all?

Ex. No.7 **REPORT WRITING**

Date:

Aim:

Design a format to prepare a technical report for the research undertaken.

Algorithm:

The following is the format of a research report:

1. Title Page

   Title Page should indicate the topic on which the report is prepared. It should include the name of the person or agency who has prepared the report.

2. Page Contents

   It should also indicate the chapter headings along with the page number.

Chapter no.	Title of the chapter	Page no.
	Declaration	
	Certificates	
	Acknowledgement	
	Executive summary	
1	Introduction to the project	
2	Research design and methodology	
3	Theoretical perspective of the study	
4	Company and industry profile	
5	Data analysis and interpretation	
6	Summary of findings, suggestions and conclusions	
	Bibliography	
	Appendix	

3. Executive Summary

   It is a condensed version of the whole report. It should be written in one or two pages. Since top executives read only the executive summary,

An executive summary should have,

(a) Objectives

(b) Brief methodology

(c) Important findings

(d) Key results

(e) Conclusion

4. Body

This section includes:

(a) Introduction

(b) Methodology

(c) Limitations

(d) Analysis and interpretations

Introduction: The introduction must explain clearly the decision problem and research objective. The background information should be provided on the product and services provided by the organisation which is under study.

Methodology: How you have collected the data is the key in this section. For example, Was primary data collected or secondary data used? etc.,

Limitations: The limitations may be of time, geographical area, the methodology adoptedetc.

Analysis and interpretations: Statistical tools if any will be applied to make analysis and to take decisions.

5. Conclusions and Recommendations

- What was the conclusion drawn from the study?
- Based on the study, what recommendation do you make?

6. Bibliography

A bibliographysection is used to list the publications or sources that you have consulted. The bibliographyshould include title of the book, name of the journal in case of article, volume number,page number, edition, etc.

7. Appendix

The appendix will contain copies of datacollection forms called questionnaires, details of the annual report of the company etc.,

Result:

Hence we designed the format for technical report for the research undertaken.

Ex. No.8 **MLA AND APA FORMAT**

Date:

Question:

Write bibliography in MLA and APA format for reference made for the research undertaken.

Explanation:

MLA stands for the Modern Language Association, which is an organization that focuses on language and literature.

Some basic rules for MLA Work Cited lists are:

- All citations should be double spaced
- Indent after the first line of each entry (hanging indent)
- Entries are not numbered; Alphabetize by the first word of the entry
- If no author is listed, begin with title
- *Italics* must be used for titles of books and periodicals (If italics are used, the font must be obviously different from the standard print)
- Capitalize titles of books and articles according to convention, no matter how they appear in a database or catalog
- Editions of books are noted after the title in the following format: 2nd ed. First editions are not listed as such. If no edition is listed, omit the edition section
- Dates are in Day Month Year format (e.g. 12 Dec. 1992) with all months abbreviated to three letters followed by a period (Jan., Feb., Mar., Apr., Aug., Oct., Nov., Dec.) except May, June, and July, which are left as is and Sept.
- Page numbers in MLA are sometimes shortened. If the page numbers are three or more digits, shorten the second number to two digits when possible. *Examples*: 8-9; 44-49; 112-23; 492-506; 1253-66.
- Omit http:// when using electronic sources.
- For database sources, use the permalink as the URL.

1. TO CITE BOOKS

Author's Last Name, First Name Middle Name or Initial. *Title of Book: Subtitle of Book*. Edition, Publisher, Year of print publication.

Examples:

1. Sternberg, Elaine. *Just Business: Business Ethics in Action.* 2nd ed., Oxford UP, 2000.
2. *Utah County Facts Book*. Utah Association of Counties, 1981.

2. TO CITE PRINT JOURNALS

Author's Last Name, First Name Middle Name or Initial. "Title of Article." *Name of Journal*, volume number, issue number, date of print publication, page numbers.

***Example*:**

1. Hise, Greg. "Home Building and Industrial Decentralization in Los Angeles: The Roots of the Postwar Urban Region." *Journal of Urban History*, vol.19, no.6, Feb.1993, pp. 95-125.

3. TO CITE JOURNALS FROM A DATABASE

Author's Last Name, First Name Middle Name or Initial. "Title of Article." *Name of Journal*, volume number, issue number, date of online publication, page numbers. *Name of Database*, URL or doi number.

Example:

1. Seyler, Elizabeth M. "Review: Revealing the African Roots of Argentine Tango." *Dance Chronicle*, vol. 31, no. 1, 2008, pp. 104-12. *JSTOR*, www.jstor.org/stable/25598145.

4. TO CITE ONLINE JOURNALS

Author's Last Name, First Name Middle Name or Initial. "Title of Article." *Name of Journal*, volume number, issue number, date of online publication, pages (if listed), location.

Example:

1. Graiouid, Said. "From Postmodernism to Post-Tradition: The End of Theory in the Age of Global Conservatism." *Reconstruction*, vol. 7, no. 4, 2007, reconstruction.eserver.org/Issues/074/graiouid.shtml.

5. TO CITE WEBSITES

Author's Last Name, First Name Middle Name or Initial. "Title of Article or section if using only part of the website." *Name of Website*, Name of organizational sponsor (not advertising sponsor), date published or updated, URL. Date of access (needed if no date is found.).

***Examples*:**

1. *Education: Human Development Network*, The World Bank, 2016, go.worldbank.org/8TJ7JTJWJ0.
2. "Gender Inequality and Women in the US Labor Force." *International Labour Organization*, 1996-2016, www.ilo.org/washington/areas/gender-equality-in-the-workplace/WCMS_159496/lang--en/index.htm. Accessed 9 May 2016.

APA (AMERICAN PSYCHOLOGICAL ASSOCIATION)

This is a complete guide to APA (American Psychological Association) in-text and reference list citations.

Some basic rules for APA References lists are:

- All citations should be double spaced; Indent after the first line of each entry
- Alphabetize by the first word of the entry; entries are not numbered
- Editions of books are noted after the title in the following format: (2nd ed.) First editions are not listed as such. If no edition is listed, omit the edition section
- *Italics* must be used for book and periodical titles
- Capitalize ONLY the first word of a title, the first word of a subtitle, and proper nouns in titles of books and articles, no matter how they appear in a database or catalog

- Use the abbreviations p. or pp. only for multi-page newspaper articles, encyclopedia entries, and chapters or articles in edited books; Do not use the abbreviation p. or pp. (or any other abbreviation) for magazine and journal articles
- Dates are in Year, Month Day format (e.g., 1999, December 20)
- If no author is listed, begin with title
- Date is in parenthesis after the author's name (or title if no author is listed)
- Use (n.d.) if no date is given
- Personal Communication includes: private letters, memos, some electronic communication (i.e. email or messages from nonarchival discussion groups), personal interviews, telephone conversations, etc. These types of communication are not recoverable data and therefore should not be included on the Reference page. **Cite personal communications in text only**

1. TO CITE BOOKS

Author's Last Name, First Initial. Middle Initial. (Year of Publication). *Title of book: Subtitle of book*. edition. Publisher.

***Examples*:**

1. Sternberg, E. (2000). *Just business: Business ethics in action* (2nd ed.). Oxford University Press.

2. TO CITE EBOOKS

Author's Last Name, First Initial. Middle Initial. (Year of Publication). *Title of book: Subtitle of book*. edition. Publisher if previously published. doi number with URL

E-book Example:

1. Speed, H. (2004). *The practice and science of drawing.* Seeley Service. Retrieved from http://www.gutenberg.org/etext/14264

3. TO CITE PRINT JOURNALS

Author's Last Name, First Initial. Middle Initial. (Year of Publication). Title of article. *Name of Journal*, *volume*(issue), pages.

***Example*:**

1. Hise, G. (1993). Home building and industrial decentralization in Los Angeles. *Journal of Urban History, 19*(6), 95-125.

4. TO CITE WEBSITES

Author's Last Name, First Initial. Middle Initial. (Date of Publication or Update). *Title of work.* Site name. Retrieved Month Day, Year, from URL from Homepage

Examples:

News website:

1. Bologna, C. (2018, June 27). *What happens to your mind and body when you feel homesick?* HuffPost. https://www.huffingtonpost.com/entry/what-happens-mind-body-homesick_us_5b201ebde4b09d7a3d77eee1

RESEARCH METHODOLOGY (PRACTICAL)

Semester – IV

18BPU411 2H – 1C

Instruction Hours / week: L: 0 T: 0 P :2 Marks: Internal: 40 External: 60 Total: 100

End Semester Exam: 3 Hours

COURSE OBJECTIVES:

To make the students

1. To understand the concept of research, Research Process, research design, sampling techniques, hypothesis writing and report writing.
2. To analyse the research problem and design the blue print to capture data, analyse the same using appropriate statistical techniques and apply the learning lifelong.
3. To Critically evaluate the appropriate scales and measurement to be used for capturing data.
4. To Communicate in written form and prepare report to support decision making.
5. To Work in team and exhibit leadership skills

COURSE OUTCOMES:

Learners should be able to

1. Comprehend the meaning of research, theory of induction, deduction, research process, research design, sampling techniques, hypothesis writing and report writing
2. Analyse the research problem and design the instruments to capture data, analyse the same using appropriate statistical techniques, and apply the learning lifelong.
3. Critically evaluate the appropriate scales and measurement to be used for capturing data.
4. Communicate in written form and prepare report to support decision making.
5. Work in team and exhibit leadership skills

1. Select a problem or issue. Collect 5-10 articles related to issues from reviewed journals available.
2. Analyse a case to understand the theory of deductive and inductive reasoning.
3. Analyse a case for the selection of appropriate research design
4. Analyse a case for the selection of appropriate sampling design
5. Provide a list of variables and request to classify them as nominal/ordinal/interval/ratio
6. Ask student to prepare a questionnaire for understanding the perception towards the usage of library among students/ Reading habits among youngsters/ environmental protection Ask students to perform analysis and hypothesis testing for the collected data
7. Ask students to prepare a technical report for the research undertaken (Minimum 30 pages)
8. Ask students to write the bibliography in MLA/CPA format for reference made.

Note :6 – 8 (Team of 2-3 students)

SUGGESTED READINGS:

1. C.R. Kothari, Gaurav Garg (2018), Research Methodology, Fourth Edition, New Age International Publishers, New Delhi.
2. Uma Sekaran, Roger Bougie (2018), Research Methods for Business: A Skill-Building Approach, 7th edition, Wiley, New Delhi.
3. Donald Cooper and Pamela Schindler (2017), Business Research Methods, 11th edition, McGraw Hill education, New Delhi.
4. Zikmund William G. et al (2016), Business Research Methods, Cengage India, New Delhi.
5. Mark N.K. Saunders, Philip Lewis, Adrian Thornhill (2015), Research Methods for Business Students, 7th edition, Pearson Education, New Delhi.

Ex. No.1 COLLECTS 5 TO 10 ARTICLES FROM REVIEWED JOURNAL

Date:

AIM:

For consumer behaviour topic collect 5 – 10 articles from reviewed journal available

Algorithm:

Step 1: Identify the problems in research with the objectives and scope of research.

Step 2: Determine the journal type whether to national or international journal to be collect.

Step 3: Type the journal web address Or Use Google search tools and type the Key word eg. Consumer behaviour.

Step 4: On the homepage screen type the journal Key word as consumer behaviour or Consumer in search box.

Step 6: Click the Search button (You can select by Author/ Topic/ Abstract/ Key word)

Step 7: This will take you to a list of the articles related to your Key word.

Step 8: Look through the list until you see the article you want.

Result:

Hence we can collect more number articles from reviewed journal available.

Output:

Website Address:

1. International Research Journal of Commerce , Arts and Science - http://www.casirj.com/
2. International Journal of Research in Commerce and Management - http://ijrcm.org.in/
3. International Journal of Commerce and Management Research - http://www.managejournal.com/

Ex. No.2 **THEORY OF DEDUCTIVE AND INDUCTIVE REASONING**

Date:

Question:

Discuss the Theory of Deductive and Inductive Research with its steps.

Answer:

Market research is grounded in logic, with two logical approaches as the basic components of reasoning and strategy. These approaches are known as deduction and induction.

1) Deductive Research:

A deductive approach is concerned with "developing a hypothesis (or hypotheses) based on existing theory, and then designing a research strategy to test the hypothesis"

Deductive approach can be explained by the means of hypotheses, which can be derived from the propositions of the theory.

Deductive Research Steps

Generally, studies using deductive approach follow the following stages:

1. Deducing hypothesis from theory.
2. Formulating hypothesis
3. Testing hypothesis
4. Examining the outcome
5. Modifying theory

2. Inductive Research

Inductive reasoning is a bottom-up approach that moves from the specific to the general. In this case, the term specifically refers to an observation made by the market researcher that eventually leads to a broad generalization and theory.

Inductive reasoning begins with detailed observations of the world, which moves towards more abstract generalizations and ideas

Inductive Research Steps

1. Specific observations and measurements
2. Topic of interest emerges
3. Data collection
4. Data clusters or patterns
5. Data analysis
6. Emergence of themes
7. Generalizations
8. Dissemination of findings

Ex. No.3 **RESEARCH DESIGN**

Date:

Case Studies:

To identify the consumer preference and satisfaction of men clothing users. Customers, what kind of branded cloths they like to wear. As we know that market, segmentation has become an important tool used by retailers and marketers for identifying target customers. Segmentation is the process of partitioning markets into segments of potential customers who have similar characteristics and who are likely to exhibit similar purchasing behaviour. Segmentation has become a major tool of companies for planning marketing strategies. Segmentation research has several objectives that include analyzing markets, finding a niche, and developing and capitalizing on a superior competitive position.

AIM:

To analyze a case for the selection of appropriate research design

Algorithms:

1. Identify the research problem clearly and justify its selection,
2. Review previously published literature associated with the problem area,
3. Clearly and explicitly specify hypotheses [i.e., research questions] central to the problem selected,
4. Effectively describe the data which will be necessary for an adequate test of the hypotheses and explain how such data will be obtained, and
5. Describe the methods of analysis which will be applied to the data in determining whether or not the hypotheses are true or false

Justification:

Descriptive research design is a scientific method which involves observing and describing the behaviour of a subject without influencing it in any way. Hence Descriptive research canbeen undertaken in this research work to make research effective and the results of the research work result in success.

Result:

Hence the according to the case an appropriate research design has been selected,