S.Y. B.Com/B.M.S. Environment Management

SEM –III Research Methods in Business Solution

Q.1] Answer the following:
     [15]

A] Explain the various methods in Qualitative Approach to Research. [08]

1. Qualitative methods: These are used to find the find and confirm the presence or absence of an element. Eg- if you are thinking of changing your branding you would carry out qualitative research to see what emotional reactions people have to the new identity and what they associate it with.

1. Ethnographic Approach

Ethnography is an extremely broad area with a great variety of practitioners and methods. However, the most common ethnographic approach is participant observation as a part of field research. The ethnographer becomes immersed in the culture as an active participant and records extensive field notes. It may be used to study organizational culture.

2. Phenomenological Approach
It differs from other approaches and is based on a variety of philosophies. In this approach, researchers gather data through narratives, personal experiences and in depth interviews.
The phenomenologists have differing views on questions like 'how do we know what we know?',
'what does it mean to exist?
3. Field Research

It is a systematic study, primarily through long term, face to face interactions and observations, of everyday life. Qualitative data is often gathered using field research. Eg. a school district process of hiring a new superintendent. A field researcher selects this event i.e. the hiring process and attends the site to observe the hiring process over a period of time. The field researcher takes detailed notes on the process and may interview those involved in the hiring process. After leaving the site, the researcher compiles the data into a detailed case study report.

B] What are the ways to avoid Plagiarism? [07]

Paraphrase - So you have found information that is perfect for your research paper. Read it and put it into your own words. Make sure that you do not copy verbatim more than two words in a row from the text you have found. If you do use more than two words together, you will have to use quotation marks. We will get into quoting properly soon.

Cite - Citing is one of the effective ways to avoid plagiarism. Follow the document formatting guidelines (i.e. APA, MLA, Chicago, etc.) used by your educational institution or the institution that issued the research request. This usually entails the addition of the author(s) and the date of the publication or similar information.

Quoting - When quoting a source, use the quote exactly the way it appears. No one wants to be misquoted. Most institutions of higher learning frown on "block quotes" or quotes of 40 words or more. A scholar should be able to effectively paraphrase most material. This process takes time, but the effort pays off! Quoting must be done correctly to avoid plagiarism allegations.

Citing Quotes - Citing a quote can be different than citing paraphrased material. This practice usually involves the addition of a page number, or a paragraph number in the case of web content.

Citing Your Own Material - If some of the material you are using for your research paper was used by you in your current class, a previous one, or anywhere else you must cite yourself. Treat the text the same as you would if someone else wrote it. It may sound odd, but using material you have used before is called self-plagiarism, and it is not acceptable.

Referencing - One of the most important ways to avoid plagiarism is including a reference page or page of works cited at the end of your research paper. Again, this page must meet the document formatting guidelines used by your educational institution. This information is very specific and includes the author(s), date of publication, title, and source. Follow the directions for this page carefully. You will want to get the references right.

OR

P] Explain the following areas of Research in business: [08]

a. Government Policies and Economic Systems

b. Planning and Operational Problems of Research

<mark>- Government Policies and Economic Systems</mark>

The management can exercise control on the internal factorsThe external factors are mainly influenced by government policies and economic systems. The government is confronted by minor and major issues and research provides necessary guidelines to deal with these issues. Research at the government level is useful in:

1. Planning and controlling national economy
2. Control on production, distribution and other marketing activities.
3. Control on imports and exports
4. Miscellaneous areas- production plans, foreign exchange requirement, regulation of prices and production, equitable distribution of goods and services.

Marketing Research helps create an Economic Intelligence system. The EIS is designed to provide the planners with ongoing information about events and trends in the technological, economic, political, legal, demographic, cultural, social areas will help to give shape to the economic system.

- <mark>Planning and Operational Problems of Research</mark>

A. Planning problems of Research in business
1. Need for information
2. Determining purpose of research
3. Situation Analysis
4. Opportunity Assessment
5. Performance Analysis
6. Unit of Analysis
7. Determine Variables
   B. Operational Problems of Research in business

1. Resistance from Executives
2. Divided opinion
3. Problems of communication gap
4. Shortage of Data

Q] What are the advantages of Research Design? [07]

- Guidelines to the researchers- It provides guidelines to the researcher in terms of:
  - When to start and when to complete the work?
  - What data to be collected and from where?
  - How the data is to be collected?
- Organising resources- It facilitates organizing of resources- 1. Funds required for collecting the data, 2. The physical resources- equipment, tools, materials required, 3. The manpower to collect the data. . accordingly arrangements can be made.
- Directions to the Research staff – Provides direction in terms of : Sources of data, Techniques of data collection, Time frame of research, etc.
- Selection of techniques – Helps to select appropriate methods of data collection and analysis. Some of the techniques of data collection are: Survey and Interview, Observation, Experimentation.
- Collection of relevant data- The research design indicates: The area of research, Universe of research, Sample size, etc. This enables a researcher to collect data from the right area and proper sample.
- Objectives of Research – By guiding the researcher in all aspects like data collection, analysis, Research design helps attain research objectives
- Monitoring the expenditure – Research design provides guidelines regarding the amount of resources and funds to be used for research. So the researcher will utilize resources as per the budget and there will be a proper control on expenditure.
- Improvement in decision making – Systematic research design facilitates proper collection of data. Selection of suitable data analysis techniques leads to proper analysis and researcher can arrive at logical conclusions and make accurate decisions.

Q.2] Answer the following: [15]

A] Define and elaborate on the importance of Research Design. [08]

Bernard Phillips , " Research Design is the blue print for the collection and measurement and analysis of data."

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B] Explain the steps in Research Process. [07]

1. Define the problem- Clarity of the problem will help the researcher to decide on research objective. Eg. If the research problem is stated as decline in sales, the objective is to increase the sales.

2. Sources of data - the sources of data depend upon the research problem. The sources can be – Primary data or Secondary data.

3. Techniques of Data Collection- Depending upon nature of problem, resources available, time frame, etc , the researcher can select appropriate method of data collection such as interview method, observation method.

4. Decision on Universe – Universe refers to the type of population from which the research information can be collected. For eg. If the research is conducted on baby foods, then the universe will be mothers with little kids.

5. Sample Size – A sample is a representative of the population. The sample size depends upon certain factors such as time frame, funds available, etc. Eg, when government conducts a census , the sample size will very large.

6.Area of Data Collection- The researcher must state the areas from which the data is to be collected. Eg. A company selling only in a local market will conduct research only in that local area.

7. Methods of data analysis- The various methods of data analysis such as central tendency, time series method etc may be used depending upon the type of research.

8. Decision on resources – The researcher then decides on the resources required for research . the resources include Physical, financial and manpower resources.

9. Decision on time frame- This ensures completion of research within a stipulated time.

10. Preparation of Research Design- A research design is a report in which all details such as resources, time frame, sample size, techniques, etc are clearly stated.

11. Approval of Research Design- The researcher needs to get the research design approved from the concerned authorities.

OR

P] Explain characteristics of research design. [08]

1. Focus on objectives – RD must focus on research objective. These obj should clear to the researcher and his staff. Eg. The objective of a social research is social welfare.

2. Flexibility – A RD must be flexible depending upon the situation. Eg. If the time frame for research work is fixed and if the staff is not in a position to complete data collection in the given time frame, it may be increased.

3. Pilot Study – Pilot study is research activity conducted on a small segment of research universe. If the study indicates favourable response, the researcher can go ahead with the RD else changes need to be made.

4. Acceptance – The research design must be acceptable to the persons concerned. Eg. IN a commercial research , the RD must be approved by the higher authorities so they can sanction the resources to conduct the research.

5. Suitability – The RD must be suitable to achieve research obj. Also it should be prepared based on availability of resources. Eg. The researcher may not be able to conduct a vast research activity due to limitation of funds.

6. Cost-Effective- the research work based on the research design must bring more benefits as compared to the costs incurred on research activity.

7. Simplicity – The language used in the RD must easy to understand for the research staff and also the higher authorities only then will they approve it and sanction funds for it.

8. Ease in implementation- The research Design should avoid complicated procedures which are difficult to follow. The research staff should be able to implement it.

Q] What is Exploratory Research Design? What are its various methods? [07]

A) Exploratory Research

It is conducted when the causes of the research problem are not known. For instance, management may conduct exploratory research to find out the causes for declining sales. It helps to-define the problem clearly, to develop hypothesis, to identify alternate courses of action, to set base for further research.

Methods of Exploratory Research-

- Secondary Data analysis- Analysis of secondary data may help identify the causes.
- Experience Surveys - These are surveys taken from those who have experienced a similar problems or difficulties. Eg. studying the problems faced by farmers in Maharashtra.
- Case Analyis - The current situation is studied with the help of similar previous situations. Eg, the reasons for the failure of a product may be understood better by referring to a product failure which may have taken place in the past.
- Focus groups - A small group discusses a problem- its causes and effects. This discussion is observed and important observations are noted by moderators.

- Projective Techniques - Participants are asked to complete incomplete sentences to explore more information. Eg. The advertising campaign of Company X is poor because ...". Since participants are allowed to express freely, this technique may lead to some innovative ideas.

Q.3] Answer the following: [15]

A] Explain types of hypothesis: [08]

a. On the basis of functions:

A. On the basis of functions:

1. Descriptive Hypothesis – Descriptive Hypothesis describe variables in terms of size, form, rate. The variable may be an individual, organization, situation, etc. Eg. The unemployment rate in Maharashtra exceeds 22% of the workforce- this describes the size of unemployed group.

2. Relational Hypothesis – These indicate statements which define relationship between two variables. The relationship may be positive or negative.

3. Causal Hypothesis – These hypotheses state that the existence of, or change in one variable leads to an effect on another variable. The first variable is the independent variable and the second one is the dependent variable. Eg. Increase in female literacy leads to lower birth rate

b. On the basis of level of abstraction

1. Commonsense Hypothesis – These verify common sense based statements. Eg. Career minded employees do not prove durable on the job. These hypotheses are not considered useful as these statements are already known to others. But though these are commonly known, they may not be true.

2. Complex Hypothesis – Complex hypotheses create tools for research in complex areas of business. Complex hypotheses are comparatively difficult Eg. Distribution of population or migration of workers.

B] Explain the meaning and importance of hypothesis. [07]

William Gode and Paul Hatt define hypothesis as "a proposition which can be put to a test to determine its validity."

Rummel and Balline – "A hypothesis is a statement capable of being tested and thereby verified or rejected."

1. Provides definite focus- When hypothesis is finalized, the research gets a definite direction and the researcher can then focus on that hypothesis rather than concentrating on the rejected ones.

2. Specifies sources of data-Based on hypothesis, the researcher may decide on primary or secondary sources of data.

3. Identifies type of research- Eg. A financial research may be adopted to decide among alternative investment opportunities.

4. Testable statement- Hypothesis should be capable of being tested. Only after testing can the researcher accept the most relevant hypothesis. So the research can proceed in the direction of that hypothesis.

5. Stresses need for data- When the researcher adopts a hypothesis, he draws a framework within which data is required, so irrelevant data is automatically eliminated.

6. Attains objectives- Hypothesis will facilitate the selection of analytical research in order to attain objectives. If the objective is to remove interviewer's bias, the researcher can opt for mail survey.

7. Development of theory: Hypothesis makes an attempt to link theory and investigation. When it is tested with the help of research studies and found valid, it forms part of theory.

OR

P] What is Sampling? What are the Probability Methods of Sampling? [08]

Types of Probability Methods Sampling:
A) Probability Methods- In this method, each element of a population has a chance of being selected and included in the sample. Eg. if a sample of 100 students is to selected from a population of 1000, each student has a chance of being selected.
Types
I). simple Random Sampling - In this method, every element has equal chance of being selected in the sample. Eg. to study buying preferences of teenagers, so every teenager has an equal chance.
There are two sub-methods:

1. Lottery method- Here each element is given a number, these numbers are mixed in a box and the numbers are picked out randomly.
2. Random tables- The elements are given numbers are these numbers are placed in rows. Among these rows the sample may be randomly picked out.

II) Stratified Sampling - The population is divided into certain segments eg. income, gender, etc. Then sample members are selected randomly from each segment. The two types of stratified sampling are: - 1. Proportionate Stratified Sampling - A fixed percentage of each segment is selected as sample
2. Disproportionate Stratified Sampling - There is no such fixed percentage and sample members are randomly selected from each segment.

III) Cluster Sampling- Here the population is divided into zones or areas and from each group belonging to different area, the sample is selected. Eg. to study the spending habits of college students in Mumbai, the students may be divided into East, West, North and South Mumbai.

IV) Multi stage Sampling - There are multiple stages in sampling. Eg. to study the efficiency of private banks in India- stage 1 the researcher may first select large sampling unit such as states in India, stage 2 - the researcher may select the districts from the states selected. - in stage 3 - The researcher may select towns from the selected district and interview the pvt sector banks in those towns. and so on.

Q] Write a short note on Chi-Square test. [07]

The chi-square test of independence is a very useful statistical tool that helps in identifying if **two variables are related to each other**.
When would you use the chi-square test of independence:
Any business situation where you are essentially checking if one variable, X is related to, or independent of, another variable, Y. The use of **chi-square test** is indicated in any of the following business scenarios.
1. Suppose you want to determine if certain types of products sell better in certain geographic locations than others. For eg. to check if the type of cooking oil sold in a neighborhood is indicative of the median income in the region. So variable X would be the type of cooking oil and variable Y would be income ranges (e.g. <0k, 41k-50k, etc).
2. Suppose you want to test if altering your product mix (% of upscale, mid-range and volume items, say) has impacted profits. Here you could compare sales revenues of each product type before and after the change in product mix.

Thus the categories in variable X would include all the product types and the categories in variable Y would include period 1 and period 2.

3. Another application of the chi-square test of independence is to verify the influence of gender on purchase decisions. Are men the primary decision makers when it comes to purchasing a big ticket items? Is gender a factor in color preference of a car? Here variable X would be gender and variable Y would be color.

Q.4] Answer the following: [15]

A] What is the Format of Research Report? [08]

Format of Research Report
1. Title Page

2.Table of contents
a. Abstract/Introduction/Executive Summary: This is a short description of your research beginning with why you are conducting the research, what have you found and what solution did you recommend.
b. Methodology: Mention what methods of data collection, data analysis etc were used and why. Refer to research design
c. Findings : This is the main matter about how the research was conducted. This can be divided into different chapters.
d. Limitations : Mention the limitation of time, manpower, funds, knowledge, sources of information.
e. Conclusions: On the basis of what you found from the research, Reasons for the problem, Other observations. (Keep conclusion short and avoid saying I or we, say ..it was observed that)
f. Recommendations: Based on the conclusion , recommend what the higher authorities can or should implement in order to solve the problem. Eg. We recommend utilizing social media in order to boost product promotion

g. Appendix: Attach a format of questionnaire or any other important document part of research.

h. Bibliography: Mention the websites, journals, etc used for references along with name of publisher, date of publication, author's name and page number. Ensure the references are in alphabetical order.

B] In data processing, what is tabulation? What are its principles? [07]

Tabulation involves the orderly and systematic presentation of numerical data in a form designed to elucidate the problem under consideration.

Principles / Guidelines of Tabulation

1. Title – Each statistical table must have a suitable title for easy identification and clear description of data presented.

2. Units of measurement – The units of measurement under each heading must be clearly stated in terms amounts, volumes, weights, etc.

3. Numbering of Tables- The tables should be numbered to facilitate easy reference. Especially when there is large amount of tabulated data.

4. Explanatory footnotes- Explanatory footnotes related to the table should be given below the table. These provide additional information about the details in the tables.

5. Source of Data- The table needs to indicate the source of data. This will help verify the authenticity of the information.

6. Column headings – The column headings should clearly indicate the matter in the column.

7. Row stubs- The row stubs in the first column of the table should identify the data presented in each row.

8. Numbering of Column- Each column should be serially numbered for easy reference

9. Placing of column – The columns whose data is to be compared, need to be placed side by side.

10. No empty data cells – No cell should be left blank. When data is missing for a particular cell, enter the words 'Not available' or 'Not applicable'.

OR

P] What is data interpretation? What are its essentials? [08]

Interpretation of data involves drawing conclusions/inferences by analyzing the data. Analysis of data often includes simultaneous interpretation of data

Essentials/ Guidelines of Interpretation of data

1. Homogeneous Data- It means the variables or criteria of data collection should be the same in all areas. Eg. While comparing the packaging of different brands, the brands should be compared on same criteria.

2. Proper Processing of data- Before analysis and interpretation, the researcher must ensure that the processing of data is done correctly. An error in processing will lead to defects in analysis and interpretation.

3. Accuracy of data- The data in all the stages right from collection should be error free so that the overall accuracy of the research is maintained.

4. Adequacy of data- For proper interpretation, the data collected should be sufficient to draw proper conclusion. If the sample size is too small as compared to the population, the information from the sample may not be sufficient.

5. Suitability of data- The data must be relevant to the study. The sample selection and the questionnaire must be developed in such a way that only the appropriate respondents and the appropriate data is collected.

6. Reliability of data- The data should be reliable, free from bias, up-to-date and from the right sources.

Q] Explain the features of Primary Data. [07]

1. First hand information- It is collected directly from respondents. It is original and more specific.

2. Time consuming – It is more time consuming and lengthy because it involves scheduling interviews, interviewing the respondents, collecting data and processing it.

3. Expensive – It involves high expenditure because there is a need to train the research staff, prepare questionnaire, printing and stationary expenses.

4. Reliability – Since it is first hand information collected by the researcher himsel , it is comparatively more reliable.

5. Availability – This data is not readily available because it has to be collected. At times the research may be too micro level and the relevant data may not be found through secondary sources.

6. Accuracy – The researcher may cross check the data and verify the accuracy of the data during various stages such as collection, processing and analysis stage. So, there are comparatively less chances of errors or defects.

7. Paper work – Primary data collection relies on paper work like questionnaire. Processing of primary data in tables and analysis of data also need a lot of paper.

8. Types of methods – The main four methods through which primary data can be collected are:

1. Interview method
2. Survey method
3. Observation method
4. Experiment method

Q.5] Write short notes: (Any three) [15]

1. Plagiarism

It is the presentation of the work of another person as one's own or without proper acknowledgement.

Common forms of Plagiarism

1. Submitting someone's work as their own.

2. Taking passages from their own previous work without adding citations.

3. Re-writing someone's work without properly citing sources.

4. Using quotations, but not citing the source.

5. Interweaving various sources together in the work without citing.

6. Citing some, but not all passages that should be cited.

2. Features of Secondary data (any 5)

1.   Recorded data – It is collected from already printed or published source. This data may have been collected in the past for some other purpose.
2.   Easy to collect – It is readily available as compared to primary data .
3.   Comprehensive – Secondary data is available on a wide range of topics and in large volumes.
4.   Sources - It can be made available through existing published sources such as newspaper, journals, magazines, etc.

5.   Relevance- This is readymade information collected in the past for some other purpose. Hence it may not be entirely relevant to the current problem.
6.   Availability – It is readily available through internal and external sources.
7.   Less time consuming – Since the data is already available, less time is spent in collecting the data as compared to primary data.
8.   Less expensive – It is less expensive because there is no need to spend money on conducting surveys, preparing questionnaire, etc.

3. Confidentiality

'Confidentiality' relates to the protection of the data collected. Where the aim of your research is specifically to access private feelings, stories, and concerns, you will need to be clear about how the confidentiality of that data will be respected. Again, be clear about the level of confidentiality you can, and cannot, guarantee.

4. Hypothesis

William Gode and Paul Hatt define hypothesis as "a proposition which can be put to a test to determine its validity."
Rummel and Balline – "A hypothesis is a statement capable of being tested and thereby verified or rejected."

5. Snowball sampling technique

This is used for the studies wherein respondents/subjects are hard to find. It works like a chain system. Eg. to study the patients suffering from a rare disease, the researcher may not find the respondents easily. In this case, he can take help of one respondent to find another having the same problem. So one respondent leads to another and so on. just like a snowball.