UNIT - I

Research – Concept - Business research – Definition – Features – Types: Basic and applied, exploratory, descriptive and causal – Phases of business research.

MEANING OF RESEARCH

Research in a common parlance refers to a search for knowledge. It can be defined as a scientific and systematic search for information on a specific topic. In fact, research is an art of scientific investigation.

The term 'Research' consists of two words: 'Re' and 'Search'. In that, 'Re' means again and again and 'Search' means to find out something. Therefore, the Research is a process of which a person observes the phenomena again and again and collects the data and on the basis of data he draws some conclusions.

Research is a careful consideration of study regarding a particular concern or a problem using scientific methods. In short, the search for knowledge through objective and systematic method of finding solution to a problem is called research.

DEFINITION OF RESEARCH

According to the American sociologist Earl Robert Babbie, "Research is a systematic inquiry to describe, explain, predict and control the observed phenomenon. Research involves inductive and deductive methods."

According to Advanced Learner's Dictionary of Current English defines Research as " a careful investigation or inquiry specially through search for new facts in any branch of knowledge"

Redman and Mory define Research as " systematized effort to gain new knowledge".

Clifford woody define research as " defining and redefining problems, formulating hypothesis or suggested solutions, collecting, organizing and evaluating data, making deductions and reaching conclusions and at last determine whether they fit for the formulation of hypothesis.

Webster's New International Dictionary defined research as, " careful or critical inquiry or examination in seeking facts or principles, diligent investigation in order to ascertain something"

OBJECTIVES OF RESEARCH

The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet. The objectives of research are listed below.

1. To acquire knowledge with an occurrence or to achieve new understandings into it.
2. To describe exactly the features of a particular individual, situation or a group.
3. To decide the frequency with which something occurs or with which it is associated with something else.
4. To test a hypothesis of a causal relationship between variables.

CHARACTERISTICS OF RESEARCH

1. A systematic approach is followed in research. Rules and procedures are an integral part of research that set the objective of a research process. Researchers need to practice ethics and code of conduct while making observations or drawing conclusions.

2. Research is based on logical reasoning and involves both inductive and deductive methods.
3. The data or knowledge that is derived is in real time, actual observations in the natural settings.
4. There is an in-depth analysis of all the data collected from research so that there are no anomalies associated with it.
5. Research creates a path for generating new questions. More research opportunity can be generated from existing research.
6. Research is analytical in nature. It makes use of all the available data so that there is no ambiguity in inference.
7. Accuracy is one of the important character of research, the information that is obtained while conducting the research should be accurate and true to its nature. For example, research conducted in a controlled environment like a laboratory. Here accuracy is measured of instruments used, calibrations, and the final result of the experiment.

MEANING OF BUSINESS RESEARCH

Business research is a process of acquiring detailed information of all the areas of business and using such information in maximizing the sales and profit of the business. Such a study helps companies determine which product/ service is most profitable or in demand. In simple words, it can be stated as acquisition of information or knowledge for professional or commercial purpose to determine opportunities and goals for a business.

Business research can be done for anything and everything. In general, when people speak about business research it means asking research questions to know where the money can be spent to increase sales, profits or market share. Such a research is critical to make wise and informed decisions.

For example: A mobile company wants to launch a new model in the market. But they are not aware of what are the dimensions of a mobile that are in most demand. Hence, the company conducts a business research using various methods to gather information and the same is then evaluated and conclusions are drawn, as to what dimensions are most in demand, This will enable the researcher to make wise decisions to position his phone at the right price in the market and hence acquire a larger market share.

DEFINITION OF BUSINESS RESEARCH

- The definition of business research involves acquiring information and knowledge for professional or commercial purposes such as determining opportunities and goals for a business.
- Business research is an important management activity that helps companies determine which products will be most profitable for companies to produce.

FEATURES OF BUSINESS RESEARCH

- Business research in applied research assumes importance since it is problem oriented and decision oriented.
- Business research normally comes about because a problem exists and therefore there is a need for seeking information by which the problem can be solved.
- The dynamic nature of the environment in which the research takes place is another feature of business research.
- Business Research may involve careful enquiry or experimentation and result in discovery or invention. There cannot be any research which does not increase knowledge which may be useful to different people in different ways.

a. For Industrial and economic growth
b. For business management
c. For management .

- Business Research helps the management to discharge its managerial functions.

SCOPE OF BUSINESS RESEARCH

Business Research has a wide scope and draws upon the research findings of related disciplines such as Sociology, Psychology, Anthropology, Political Science, Biology, Mathematical And Other Sciences.

Business Research may focus on theory or specific operational problems. In the former case the objective would be to discover or illustrate precepts or principles and in the latter case the objective would be to provide solution to current problems.

Research in functional areas of business are given below.

1.Marketing Research

There is a great need for wide variety of basic research projects in marketing . It includes,

a) Marketing policy	b) product research	c)Market research	d) sales management and methods	e)Channels of distribution	f)Advertising and Sales promotion research
i) pricing ii) Advertising iii) Service iv) Channels of distribution v) customer relations	i) New product ideas ii) Market standardization and variety control iii) improvements and new uses for present products iv) Brand names and trade marks v) packaging vi) company and product image vii) customer preferences	i) Economic forecast ii)industry forecast iii) Sales forecast iv)Technology forecast v) market and sales potential by product, customer, area, salesman and competition.	i) types of organization ii) effectiveness and efficiency of sales organization iii) Customer service iv) Long range organizational planning	i) Evaluation of alternative channels of distribution ii) inventory control	i)Consumer motivation studies ii)Media selection iii) Advertising appeals iv) copy testing v) Trade show participation vi) point of purchase advertising vii) premiums, deals and special promotions.

2. Organization Research

It is a meeting ground for the sociologist, the economist, the political scientists, the operations researchers, the mathematician, the social psychologist and the engineer.

The organization research is an interdisciplinary filed. Since the men who do research in organizations come from a variety of background they tend to bring with them different tools, different concepts, and different methodological approaches.

Research in organization's may be directed towards:

i) Types of organization's and their effectiveness
ii) Behaviour of employees
iii) Development of principles to guide managers
iv) organizational situations.

3. Industrial Research

An industrial research laboratory is presumably a pragmatic organsiaton. Its objectives are directly connected with the future welfare of a particular company. The specific objectives of industrial research are the following.

i) To improve the quality of products
ii) To deveop new materials, processes or devices for capturing new markets.
iii) To develop new uses for existing materials, processes or devices
iv) To effect savings in cost
v) To abate dangers
vi) To assist in standardization
vii) To improve customer and public relations.

4. Production Research

A good production organisation is never static. It keeps

on changing . if the production unit is successful, the changes turn about to be improvements. But the changes always bring difficulties, if not troubles. Thus, the research laboratory plays a logical and continuing role of production research in the production picture.

Production research activities normally fall into three classifications.

i) Investigation of new production methods.

ii) Investigation of methods of standardization and control

iii) Specialized trouble shooting.

ADVANTAGES OF BUSINESS RESEARCH

- Business research helps identify opportunities and threats.
- It helps to identify problems and using this information wise decisions can be made to tackle the issue appropriately.
- It helps to understand customers better and hence can be useful to communicate better with the customers or stakeholders.
- Risks and uncertainties can be minimized by conducting business research in advance.
- Financial outcomes and investments that will be needed can be planned effectively using business research.
- Such a research can help track competition in the business sector.
- Business research can enable a company to make wise decisions as to where to spend and how much.
- Business research can enable a company to stay up-to date with the market and its trends and appropriate innovations can be made to stay ahead in the game.
- Business research helps to measure reputation

DISADVANTAGES OF BUSINESS RESEARCH

- Business research can be a high cost affair
- Most of the time, business research is based on assumptions
- Business research can be time consuming
- Business research can sometime give you inaccurate information, because of a biased population or a small focus group.
- Business research results can quickly become obsolete because of the fast changing markets

IMPORTANCE OF BUSINESS RESEARCH

- Business research is one of the most effective way to understand customers, the market and competitors.
- Business research helps companies to understand the demand and supply of the market.
- Using such a research will help businesses reduce costs, and create solutions or products that are targeted to the demand in the market and the correct audience.
- In-house business research can enable the senior management to build an effective team or train or mentor, when needed.
- Business research enables the company to track its competitors and hence can give you the upper hand to stay ahead of them.
- Failures can be avoided by conducting such a research as it can give the researcher an idea if the time is right to launch its product/solution and also if the audience is right.
- It will help to understand the brand value and measure customer satisfaction which is essential to continuously innovate and meet customer demands. This will help

the company grow its revenue and market share.

- Business research also helps to recruit the ideal candidates for various roles in the company. By conducting such a research a company can carry out SWOT analysis, i.e. understand the strengths, weaknesses, opportunities and threats. With the help of this information, wise decisions can be made to ensure business success.
- Business research is the first step that any business owner needs to set up his business, to survive or to excel in the market.
- The main reason why such a research is of utmost importance is because it helps businesses to grow in terms of revenue, market share and brand value.

TYPES OF RESEARCH:-

The basic types of research are as follows:

(i) Descriptive vs. Analytical:

Descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present. In social science and business research we quite often use the term Ex post facto research for descriptive research studies

In analytical research, on the other hand, the researcher has to use facts or information already available, and analyze these to make a critical evaluation of the material.

(ii) Applied vs. Fundamental:

Research can either be applied (or action) research or fundamental (to basic or pure) research.

Applied research aims at finding a solution for an immediate problem facing a society or an industrial/

business organisation, Applied research focuses on analyzing and solving real-life problems. This type of research refers to the study that helps solve practical problems using scientific methods. This research plays an important role in solving issues that impact the overall well-being of humans. For example, finding a specific cure for a disease.

whereas fundamental research is mainly concerned with generalisations and with the formulation of a theory. Basic research is mostly conducted to enhance knowledge. It covers fundamental aspects of research. The main motivation of this research is knowledge expansion. It is a non-commercial research and doesn't facilitate in creating or inventing anything. For example, an experiment is a good example of basic research.

(iii) Quantitative vs. Qualitative:

Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. Quantitative research is a structured way of collecting data and analyzing it to draw conclusions. Unlike qualitative research, this research method uses a computational, statistical and similar method to collect and analyze data. Quantitative data is all about numbers.

Qualitative research, on the other hand, is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind. we quite often talk of 'Motivation Research', an important type of qualitative research. Qualitative research is a process that is about inquiry, that helps in-depth understanding of the problems or issues in their natural settings. This is a non- statistical research method.

(iv) Conceptual vs. Empirical:

Conceptual research is that related to some abstract

idea(s) or theory. It is generally used by philosophers and thinkers to develop new concepts or to reinterpret existing ones.

On the other hand, empirical research relies on experience or observation alone, often without due regard for system and theory. It is data-based research, coming up with conclusions which are capable of being verified by observation or experiment.

(v) Some Other Types of Research:

All other types of research are variations of one or more of the above stated approaches, based on either the purpose of research or the time required to accomplish research, on the environment in which research is done, or on the basis of some other similar factor.

They are as follows

One-time research - The research which is restricted to a single time-period is known as One time Research.

Longitudinal research - The research which is carried over several time-periods are refers to Longitudinal Research.

Field-setting research or laboratory research or simulation research - Research can be field-setting research or laboratory research or simulation research, depending upon the environment in which it is to be carried out.

Clinical or diagnostic research – This type of research follow case-study methods or indepth approaches to reach the basic causal relations. Such studies usually go deep into the causes of things or events that interest us, using very small samples and very deep probing data gathering devices.

Exploratory Research - The Exploratory research is the development of hypotheses rather than their testing.

Formalized research - formalized research studies are those with substantial structure and with specific hypotheses to be tested.

Historical research - Historical research is that which utilizes historical sources like documents, remains, etc. to study events or ideas of the past, including the philosophy of persons and groups at any remote point of time.

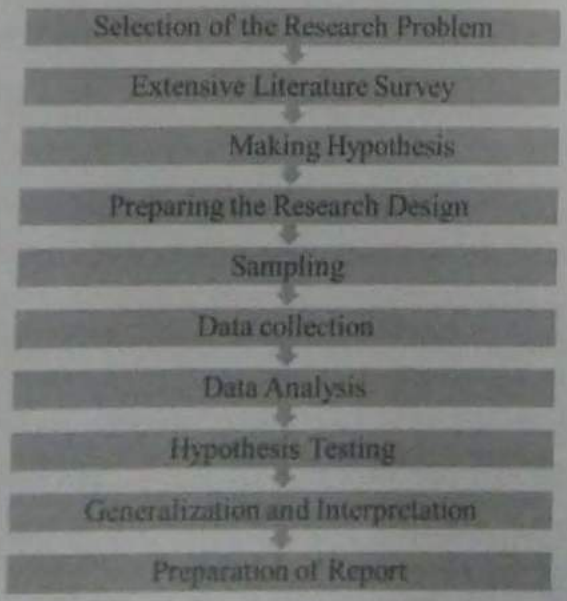
Conclusion-oriented Research - While doing conclusion oriented research, a researcher is free to pick up a problem, redesign the enquiry as he proceeds and is prepared to conceptualize as he wishes.

Decision-oriented research - Decision-oriented research is always for the need of a decision maker and the researcher in this case is not free to embark upon research according to his own inclination.

Operations research - Operations research is an example of decision oriented research since it is a scientific method of providing executive departments with a quantitative basis for decisions regarding operations under their control.

RESEARCH PROCESS

Research process contains a series of closely related activities which has to carry out by a researcher. Research process requires patients. There is no measure that shows your research is the best. It is an art rather than a science. Following are the main steps in social or business research process.



Selection of Research Problem

The selection of topic for research is a difficult job. When we select a title or research statement, then other activities would be easy to perform. So, for the understanding thoroughly the problem it must have to discuss with colleagues, friend, experts and teachers. The research topic or problem should be practical, relatively important, feasible, ethically and politically acceptable.

Literature Review or Extensive Literature Survey

After the selection of research problem, the second step is that of literature mostly connected with the topics. The availability of the literature may bring ease in the research. For this purpose academic journals, conference and govt. reports and library must be studied.

Making Hypothesis

The development of hypothesis is a technical work depends on the researcher experience. The hypothesis is to draw the positive & negative cause and effect aspects of a problem. Hypothesis narrows down the area of a research and keep a researcher on the right path.

Preparing the Research Design

After the formulation of the problem and creating hypothesis for it, research Design is to prepare by the researcher. It may draw the conceptual structure of the problem. Any type of research design may be made, depend on the nature and purpose of the study.

Sampling

The researcher must design a sample. It is a plan for taking its respondents from a specific areas or universe. The selection of sample is a very important task. The researcher should determine the size of the sample and the methods of sampling. Among the various methods of sampling, the sampling can be broadly classified as Probability Sampling and

Non-probability Sampling, the researcher should make a judicious selection.

Data collection

Data collection is the most important work of the researcher. The collection of data must be containing on facts which is form of two types namely primary and secondary data.

Primary Data Collection: Primary data may be from the following.

1. Experiment
2. Questionnaire
3. Observation
4. Interview

Secondary data collection: it has the following categories:

1. Review of literature
2. Official and non-official reports
3. Library approach

Data Analysis

When data is collected, it is forwarded for analysis which is the most technical job. Data analysis may be divided into two main categories.

Data Processing: Once the data are collected, it should be classified and tabulated. Then the analysis of the data should be undertaken. At this stage, the researcher should select the tools for analysis, which are consistent with the objectives of the study. The Researcher can use the computer aided research analysis and should be strong in reasoning, drawing inferences and reaching conclusions.

Hypothesis Testing

Research data is then forwarded to test the hypothesis. Do the hypothesis are related to the facts or not? To find the

answer the process of testing hypothesis is undertaken which may result in accepting or rejecting the hypothesis.

Generalization and Interpretation

The acceptable hypothesis is possible for researcher to arrival at the process of generalization or to make & theory. Some types of research has no hypothesis for which researcher depends upon on theory which is known as interpretation.

Preparation of Report

A researcher should prepare a report for which he has done is his work. He must keep in his mind the following points:

Report Design in Primary Stages

The report should carry a title, brief introduction of the problem and background followed by acknowledgement. There should be a table of contents, grapes and charts.

Main Text of the Report

It should contain objectives, hypothesis, explanations and methodology of the research. It must be divided into chapters and every chapter explains separate title in which summary of the findings should be enlisted. The last section would be clearly of conclusions to show the main theme of the R-study.

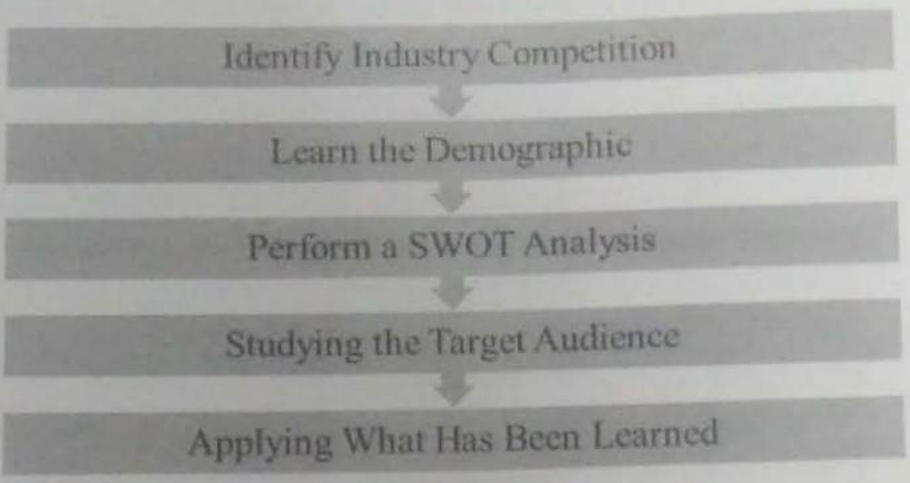
Closing the Report

After the preparation of report, the last step in business research process contains of bibliography, references, appendices, index and maps or charts for illustration. For this purpose the information should more clearer.

PHASES OF BUSINESS RESEARCH

The business research process involves learning about a company's customers, competitors and the industry. The major objectives of the process are determining what products or services to offer, which customers are most likely to buy them, where to sell them and how to price and promote them. Various

steps in the business research process help a company achieve these objectives.



Identify Industry Competition

The first step is identifying key competitors in the industry. One way to garner information on the competition is through secondary research. Secondary research information is data that are already available about the industry: market share and total market sales. Secondary research may also provide detailed information about competitors, such as number of employees, products they sell and their key strengths.

Secondary research can be obtained through various sources, depending on the industry. For example, the NPD Group uses their CREST analysis for restaurants. Nielsen provides data about consumer package goods.

Learn the Demographic

The process continues with a study of the consumer or business customer. It is important to determine what the customer wants and needs before developing products to meet those needs. The consumer will usually dictate which products will sell. If consumers' needs are not met, they will usually buy competitive products.

The best way to determine customer needs is through primary research. Primary research includes phone surveys,

personal interviews and even mail surveys. With these surveys, marketing research professionals test certain product concepts, measure customer satisfaction and determine the best features and prices for their products.

Perform a SWOT Analysis

Once detailed information on customers and the competition has been garnered, a SWOT analysis can be used to study the company's strengths, weaknesses, opportunities and threats. A strength may be the company's market share or a good reputation among customers, according to "SWOT Analysis" at quickmba.com, a popular business reference site.

A weakness may be inexperienced management. Additionally, a company may have an opportunity to purchase another company. Threats may include new government regulation in the industry or a well-financed new competitor.

A company uses the SWOT analysis to exploit its strengths via available opportunities. For example, a company with strong financial backing could purchase another company to increase its distribution and market share. A business can also minimize its weaknesses against potential threats, for example by hiring more experienced marketing people to deal with an increase in competition.

Studying the Target Audience

At least part of the business research process should be devoted to studying a company's target audience – the customers who are most likely to purchase the company's products. For example, a small radio station's primary target audience may be white professional women between the ages of 35 and 54. A company can determine its target audience through primary research.

Applying What Has Been Learned

The steps taken during the business research process

are effective only if the company uses them to develop marketing strategies. Also, business research is a constant endeavor. Technologies change, as do customer tastes. Therefore, it is important to conduct business research throughout the year.

SELF ASSESSMENT QUESTIONS

1. What you mean by Research?
2. Define Research
3. What is Business Research?
4. Define Business Research.
5. What are the objectives Research?
6. Discuss the characteristics of Research.
7. List out the Features of Business Research.
8. Explain the Scope of Business Research.
9. Explain the Importance of Business Research.
10. State the Advantages of Business Research.
11. List out the Disadvantages of Business Research.
12. Explain the different types of Research
13. Explain in detail about Research project.
14. Discuss the Phases of Business Research.

UNIT - II
RESEARCH PROBLEM

UNIT - II Process and formulation of Research problem - Sources – Identification –Selection– Criteria of a good research problem – Research Design - Meaning – Essential stages in the preparation of Research Design – Evaluation of the Research Design – A Model Design.

MEANING OF RESEARCH PROBLEM

The first and foremost stage in the research process is to select and properly define the research problem. A researcher should first identify a problem and formulate it, so as to make it amenable or susceptible to research.

In general, a research problem refers to an unanswered question that a researcher might encounter in the context of either a theoretical or practical situation, which he/she would like to answer or find a solution to.

DEFINITION OF A RESEARCH PROBLEM

The Research Problem is one which requires a researcher to find out the best solution for the given problem, i.e., to find out by which course of action the objective can be attained optimally in the context of a given environment. There are several factors which may result in making the problem complicated. For instance, the environment may change affecting the efficiencies of the courses of action or the values of the outcomes; the number of alternative courses of action may be very large; persons not involved in making the decision may be affected by it and react to it favourably or unfavourably, and similar other factors. All such elements (or at least the important ones) may be thought of in context of a research problem.

FORMULATION OF RESEARCH PROBLEM

It is not always easy to formulate the research problem simply and clearly. In some areas of scientific research the investigator might spend years exploring, thinking, and researching before they are clear about what research questions they are seeking to answer. Many topics may prove too wide-ranging to provide a researchable problem. Choosing to study, for instance a social issue such as child poverty, does not in itself provide a researchable problem. The problem is too wide-ranging for one researcher to address. Time and resources would make this unfeasible and the results from such a study would consequently lack depth and focus.

Statement of research problem

An adequate statement of the research problem is one of the most important parts of the research. Different researchers are likely to generate a variety of researchable problems from the same situation since there are many research issues that can arise out of a general problem situation. Your research will be able to pursue only one in depth.

For a problem statement to be effective in the planning of applied research it should have the following characteristics (Andrew and Hildebrand 1982).

1. The problem reflects felt needs
2. The problem is non-hypothetical, ie it must be based on factual evidence
3. It should suggest meaningful and testable hypotheses - to avoid answers that are of little or no use to the alleviation of the problem
4. The problems should be relevant and manageable

Formulating the research problem allows you to make clear, both to yourself and the reader, what the purpose of your research is. Subsequent elaboration of method should be oriented to providing information to address that problem.

The problem statement is therefore a very important device for keeping you on track with your research. It is also one means by which your research will be evaluated - does the research address the problem as stated.

STEPS IN THE FORMULATION OF THE RESEARCH PROBLEM

The research problem or the research questions should be formulated in a sequential manner. This will reduce the chances of ambiguities to a minimum. There is no hard and fast rule for formulating the research problem. One can adopt a logical manner to reach the desired research problem, objectives and research questions.

Before deciding about the research area or the research problem in specific the researcher should ask two questions for him/herself: does he have the desired knowledge in the particular research area or not and does he have interest in conducting research on that particular area. Knowledge is necessary in order to deal with the research justly and clearly. On the other hand interest enables the researcher to give proper concern, time and energy in the accomplishment of the research.

Decide the subject area of interest:

The first step in the formulation of the research problem is to decide on a broad subject area on which you have thorough knowledge. Your knowledge in that particular subject area will enable you to decide about the research problem. It will also help you to carry out the overall research. The subject area can be selected with the help of your adviser if you are a student. When you are doing an independent research you can consult some senior researchers in your particular field. Distinguishing or selecting the subject area is the first step in the research problem formulation.

Example:

For example you have to select the research problem

for your university thesis. You should first consider your major and the subject areas that you are studying in your university. You can select one subject area among all of them and that will be of your interest. Your major is a Nutrition and you want to select childhood nutrition as the particular subject area for your thesis.

Dissect the subject area into sub-areas:

The subject area of your interest will be broad and you need to dissect it into small areas. In this way you will be able to select one of your interest and convenience. You can get help of an experienced person in this regard.

Example:

Childhood nutrition is still a broad subject area and you need to dissect it more. You can dissect it into childhood development series, malnutrition in children, child immunization, childhood diseases, childhood mortality and childhood vaccines. There can be many other categories and you can select a category or sub area among all of them. The research problem will revolve around that subject area. For example you have selected malnutrition in children as your sub-area of the research problem. This process will help you in becoming more directional. It will lead you to the formulation of the research problem.

Decide about an area:

Select an area among all the sub-areas, one that interests you most. This will help you in creating the research problems among which you have to choose one. During all these steps you need to constantly look at the possibilities of further narrowing down the subject area in order to become more specific.

Example:

You have already selected childhood malnutrition as your sub-area to formulate the research problem.

Research Problem is a partial solution

Generate as many research questions as possible, from these questions you have to choose those questions that you want to answer through your research. You should take as much time as possible to generate many questions so that you have plenty of choices. Research questions should be such that can be answered using scientific techniques and research procedures. Suppose does God exists is a question that you want to be answered but this question cannot be answered using current scientific techniques therefore such questions should be avoided.

Example:

The research questions or the research problems can be generated easily as you have your subject area selected. Suppose you have generated the following research questions. What factors influence childhood malnutrition? Is there a correlation between childhood mortality and malnutrition? What is the prevalence of childhood malnutrition around the world? Why childhood malnutrition is increasing worldwide? Now you can select those questions that you can answer from your research. There can be several factors that affect your selection of questions: availability of time, money and other resources, knowledge, skills and your abilities. You can select more than one question but your research will become longer. You can even select more than one related question.

Decide the objectives:

Objectives are the possible answers to the research question or the research problem that you have formulated. They should be formulated in a clear manner. Objectives make you specific, as you conduct your study around the objectives that you have decided. The objectives need to be specific in nature but you can also generate general objectives. General objectives and specific objectives both will have their own importance in the research.

In the last step you need to analyze your research questions and objectives again so as to minimize any confusion. Take as much time as you have to create the research problem and objectives, you should become fully satisfied before starting your research. You can get assistance from someone who has experience in conducting research. You can also get help from a statistician to know whether the research problem and hypothesis is one that can be statistically analyzed or not.

SOURCES OF RESEARCH PROBLEM

The Sources of research problem is the situation that causes the researcher to feel apprehensive, confused and ill at ease. It is the demarcation of a problem area within a certain context involving the WHO or WHAT, the WHERE, the WHEN and the WHY of the problem situation.

There are many problem situations that may give rise to research. Three sources usually contribute to problem identification. Own experience or the experience of others may be a source of problem supply. A second source could be scientific literature. You may read about certain findings and notice that a certain field was not covered. This could lead to a research problem. Theories could be a third source. Shortcomings in theories could be researched. Research can thus be aimed at clarifying or substantiating an existing theory, at clarifying contradictory findings, at correcting a faulty methodology, at correcting the inadequate or unsuitable use of statistical techniques, at reconciling conflicting opinions, or at solving existing practical problems. **Usually we say that a research problem does exist if the following conditions are met with:**

1. There must be an individual (or a group or an organisation), let us call it 'I,' to whom the problem can be attributed. The individual or the organisation, as the case may be, occupies an environment, say 'N', which

is defined by values of the uncontrolled variables, Yj.

2. There must be at least two courses of action, say C1 and C2, to be pursued. A course of action is defined by one or more values of the controlled variables. For example, the number of items purchased at a specified time is said to be one course of action.

3. There must be at least two possible outcomes, say O1 and O2, of the course of action, of which one should be preferable to the other. In other words, this means that there must be at least one outcome that the researcher wants, i.e., an objective.

4. The courses of action available must provides some chance of obtaining the objective, but they cannot provide the same chance, otherwise the choice would not matter. Thus, if P (Oj | I, Cj, N) represents the probability that an outcome Oj will occur, if I select Cj in N, then PbO1| I , C1, Ng ¹ PbO1| I , C2 , Ng . In simple words, we can say that the choices must have unequal efficiencies for the desired outcomes.

Over and above these conditions, the individual or the organization can be said to have the problem only if 'I' does not know what course of action is best, i.e., 'I', must be in doubt about the solution. Thus, an individual or a group of persons can be said to have a problem which can be technically described as a research problem, if they (individual or the group), having one or more desired outcomes, are confronted with two or more courses of action that have some but not equal efficiency for the desired objective(s) and are in doubt about which course of action is best.

IDENTIFICATION OF RESEARCH PROBLEM

The identification of research problem is the first and foremost step that every researcher has to undertake. At times, it becomes rather difficult for an inexperienced researcher or a novice/beginner in research to conceptualize a research

problem. In general, a research problem should be understood as some difficulty, unclear situation which a researcher experiences in practical or theoretical context and wants to obtain a tangible explanation, clarification or offer solution to it. For students, this problem may be as a result of theoretical encounter in the area of specialization. As such, before embarking on any research, you should identify the major research area of your interest, mostly the area of your specialization. For instance from: Education, Social sciences, Humanities, Business administration among others.

Once you have the broad area, you narrow down the area by selecting a particular topic. This should be done after going through most of the literature related to the area. The topic should further be narrowed down to a specific researchable problem.

We can, thus, state the components of a research problem as under:

1. There must be an individual or a group which has some difficulty or the problem.
2. There must be some objective(s) to be attained at. If one wants nothing, one cannot have a problem.
3. There must be alternative means (or the courses of action) for obtaining the objective(s) one wishes to attain. This means that there must be at least two means available to a researcher for if he has no choice of means, he cannot have a problem.
4. There must remain some doubt in the mind of a researcher with regard to the selection of alternatives. This means that research must answer the question concerning the relative efficiency of the possible alternatives.
5. There must be some environment(s) to which the difficulty pertains.

A research problem is said to be the one which requires a researcher to find the best available solution to the given problem. That is, the researcher needs to find out the best course of action through which the research objective may be achieved optimally in the context of a given situation. Several factors may contribute to making the problem complicated. For example, the environment may alter, thus affecting the efficiencies of the alternative courses of action taken or the quality of the outcomes. The number of alternative courses of action might be very large and the individual not involved in making the decision may be affected by the change in environment and may react to it favorably or unfavorably. Other similar factors are also likely to cause such changes in the context of research, all of which may be considered from the point of view of a research problem.

SELECTION OF RESEARCH PROBLEM

The selection of one appropriate researchable problem out of the identified problems requires evaluation of those alternatives against certain criteria, which may be grouped into:

- Internal Criteria
- External Criteria

Internal Criteria consists of:

1. Researcher's interest:

The problem should interest the researcher and be a challenge to him. Without interest and curiosity, he may not develop sustained. Perseverance Interest in a problem depends upon the researcher's educational background, experience, outlook and sensitivity.

2. **Researcher's own resource:**

In the case of a research to be done by a researcher on his own, consideration of his own financial resource is pertinent. If it is beyond his means, he will not be able to complete the work, unless he get some external financial support. Time

resource is more important than finance. Research is a time-consuming process; hence it should be properly utilized.

3. Researcher's competence:

A mere interest in a problem will not do. The researcher must be competent to plan and carry out a study of the problem. He must possess adequate knowledge of the subject-matter, relevant methodology and statistical procedures.

External Criteria consists of

1.**Research-ability of the problem:**

The problem should be researchable, i.e., amendable for finding answers to the questions involved in it through the scientific method.

2. **Novelty of the problem:**

The problem must have novelty. Thereis no use of wasting one's time and energy on a problem already studied thoroughly by others.

3. Importance and urgency:

Problems requiring investigation are unlimited, but available research efforts are very much limited.

4. **Facilities:**

Research requires certain facilities such, as well-equipped library facility, suitable and competent guidance, data analysis facility, etc. Hence the availability of the facilities relevant to the problem must be considered. Problems for research, their relative importance and significance should be considered

5. **Feasibility:**

A problem may be a new one and also important, but if research on it is not feasible, it cannot be selected.

6.**Usefulness and social relevance:**

Above all, the study of the problem should make a significant contribution to the concerned body of knowledge or to the solution of some significant practical problem. It should be socially relevant.

7. **Research personnel:**

Research undertaken by professors and by research organizations require the services of investigators and research officers. But in India and other developing countries, research has not yet become a prospective profession. Hence talent persons are not attracted to research projects. Each identified problem must be evaluated in terms of the above internal and external criteria and the most appropriate, one may be selected by a research scholar.

The following points must be taken into account while selecting a problem.

1. Subject which is overdone should not be normally chosen, for it will be a difficult task to throw any new light in such a case.
2. Controversial subject should not become the choice of an average researcher.
3. Too narrow or too vague problems should be avoided.
4. The problem should be chosen in such a way that the ingredients required for the study should be within the reach of a researcher.
5. The importance of the subject, the qualifications and the training of a researcher, the costs involved, the time factor are few other criteria that must also be considered in selecting a problem.
6. The selection of a problem must be preceded by a preliminary study.

If the subject for research is selected properly by observing the above mentioned points, the research will not be a boring drudgery, rather it will be love's labour. In fact, zest for work is a must. The subject or the problem selected must involve the researcher and must have an upper most place in his mind so that he may undertake all pains needed for the study.

CRITERIA OF A GOOD RESEARCH PROBLEM

Every research study, irrespective of its type, should meet some criterions so that it can be classified as good research. They are listed below.

1. One of the important characteristics of a good research is that the purpose of the research is clearly defined. A research study with clearly defined purpose finds a wider acceptance and acknowledgement within the research community.
2. Second important characteristic of a good research is that the research method should be defined in a clear manner with sufficient detail. This will allow the repetition of the study in future for further advancement, while maintaining the continuity of what has been done in the past.
3. The third criteria is to remember that any limitations and assumptions made by the researcher during the course of the study should be clearly highlighted in the research. This will support the findings of the research study, in case someone tries to validate the study findings.
4. The fourth thing to remember is that, as far as possible, the research design should be planned in a way that the results generated are as objective as possible. This will provide an easier understanding about the findings of the research.
5. Another thing to be considered by the researcher is that there should be sufficient data to investigate the research topic. And the researcher should carefully check the reliability and validity of the data.

6. Further, in order to deliver a good research, a researcher should confine the conclusions to those justified by the data.
7. Lastly, a good research depends a great deal on the integrity and commitment of the researcher.

MEANING OF RESEARCH DESIGN

The research design is a comprehensive master plan of the research study to be undertaken, giving a general statement of the methods to be used. The function of a research design is to ensure that requisite data in accordance with the problem at hand is collected accurately and economically. Simply stated, it is the framework, a blueprint for the research study which guides the collection and analysis of data. The research design, depending upon the needs of the researcher may be a very detailed statement or only furnish the minimum information required for planning the research project.

DEFINITION OF RESEARCH DESIGN

1. **Vimal Shah:** "Research Design is a plan of study whether controlled or uncontrolled and subjective as well as objective".
2. **Ackoff:** "It is the process of making decisions before the situation arises in which the decisions are to be carried out after for control".
3. **Miller:** "Researcher Design is a planned sequence of the entire process involved in the conducting of as research study".
4. **E.A. Suchaman:** "It is a series of guide lines or steps to keep one in right path".
5. **Kerlinges:** "Research design is a plan, structure and strategy of investigations to obtain answers to the research questions".

FACTORS AFFECTING THE RESEARCH DESIGN:

- Objectives of the research study;
- Means of obtaining the information;
- Tools for data collection;
- Data analysis (qualitative and quantitative);
- Time available for each stage of the research; and
- Cost involved for the research.

A well-planned research design serves as a blueprint for the researcher even before he actually starts working on his research. This helps him to decide his course of action during various stages of the research, thus saving his time and resources.

ESSENTIAL STAGES IN THE PREPARATION OF RESEARCH DESIGN

A research design is a plan of action, a plan for accumulating and evaluating data in an economical, efficient and relevant method.

Following are the steps in research design:

1. **The Problem** – The first step involves the proper selection and then carefully defining the problem. By this researcher will be enabled to know about what he has to search, but it should be kept in mind that the problems selected should not be unmanageable in nature and also should not be based on the desires.

2. **Objective of the study** – The objective should be very clear in the mind of the researcher as this will lead to the clarity of the design and proper response from the respondents.

3. **Nature of the study** – The research design should be very much in relation with the nature of the study, which is to be carried out.

4. **Data sources** – The various sources of the data or the information should be very clearly stated by the researcher.

5. **Techniques of data collection** – For the collection of the required information, it sometimes becomes very necessary to use some especial techniques.

6. **Social cultural context** – Research design based on the social cultural concept is prepared in order to avoid the various study variations.

7. **Geographical limit** – This step becomes a necessity at this point of time as with the help of this step, research linked to the hypothesis applies only to certain number of social groups.

8. **Basis of selection** – Selecting a proper sample acts as a very important and critical step and this is done with the help of some mechanics like drawing a random stratified, deliberate, double cluster or quota sample etc.

QUALITIES OF A GOOD RESEARCH DESIGN

The qualities of a good research design are mentioned below:

1. Good research is systematic: It means that research is structured with specified steps to be taken in a specified sequence in accordance with the well defined set of rules. Systematic characteristic of the research does not rule out creative thinking but it certainly does reject the use of guessing and intuition in arriving at conclusions.

2. Good research is logical: This implies that research is guided by the rules of logical reasoning and the logical process of induction and deduction are of great value in carrying out research. Induction is the process of reasoning from a part to the whole whereas deduction is the process of reasoning from some premise to a conclusion which follows from that very premise. In fact, logical reasoning makes research more meaningful in the context of decision making.

3. Good research is empirical: It implies that research is related basically to one or more aspects of a real situation and

deals with concrete data that provides a basis for external validity to research results.

4. Good research is replicable: This characteristic allows research results to be verified by replicating the study and thereby building a sound basis for decisions.

EVALUATION OF RESEARCH DESIGN

Research design is a complex and multifaceted topic. The research design process is different for each field in which research is conducted, and thus the methods for evaluating research design are different from one field to the next. Nevertheless, there are basic principles of research design that hold true for all disciplines. These principles include,

- relevance,
- methodology,
- collaboration,
- ethics and
- originality.

These are the standards against which all academic research designs must be judged.

Determine the nature of the research one need to evaluate. Research can be broadly divided into two categories: qualitative and quantitative. Qualitative research takes into account case evidence and observations to form a clear picture of an object, while quantitative research uses experimental processes to arrive at precise, measurable conclusions. Qualitative research designs are evaluated in terms of the approach to gathering information, while quantitative research designs are evaluating in terms of experimental method.

Review all sources cited in the research proposal. The researcher need to find out whether the research sources are reputable and relevant to the topic at hand. If the researcher not familiar with the research sources in question, look them up on an academic search such as Academic Search Premier or JSTOR.

If the authors are not well published in their field, that could be a sign that the sources are unreliable.

Check the research design for conformity to standards of scientific research. A qualitative research design must use a diverse array of primary and secondary sources, and use clearly stated questions in any polls or surveys taken, to ensure consistency and accuracy in results. A quantitative research design must conform to the standards for the scientific method: identify a topic and research question; form a hypothesis; describe independent, dependent and control variables; and outline a testing procedure.

Identify whether the design is descriptive, correlational, semi-experimental or experimental. Descriptive designs draw upon observation, correlational designs draw upon statistics and experimental/semi-experimental draw upon controlled experiment results. In general, descriptive and correlational designs are used in qualitative studies, experimental designs are used in quantitative studies and semi-experimental designs may be used in any type of study.

Look for any ethical problems that may arise in the design. If the project would cause financial loss, emotional stress, embarrassment or injury to a human subject, it is unethical. If the project would result in severe injury or loss of life for animal subject — without contributing to a life-saving medical research program — it is unethical. If the project breaks any laws, it is unethical.

Review existing literature in order to determine whether the research has been done before. Scientific research should be original and contribute to the advancement of knowledge on a subject. A research design that simply replicates a previous research project does not meet these standards.

A MODEL DESIGN

1) Title of the study

A Study on Job Satisfaction of employees with special reference to State Bank of India .

2) Introduction

An Organization is a group of people who work together to achieve common goals. The success and failure of any organization depends upon its human resources. Organization believes that satisfied employees are more performing. Hence, there is a requirement for the organization to satisfy their employees to achieve their objectives. From the employee's point of view, job satisfaction renders several benefits such as reducing stress, fresh mind, and good relationship with co-workers and creative thinking.

Job Satisfaction is a set of favourable environment that affects both administrative and emotional feelings with which employees consider friendly for their work. In the recent years, banking sector has been able to attract young talents who have chosen banking profession as their preferred career.

To perform any job an employee should have ability required and along with ability the willingness of that employee to perform the job is also essential. To create the willingness of employees and to motivate them, managers should design jobs that motivate the employees and satisfy them on work and understanding the need for designing the jobs of workers.

3) statement of the problem

The research problem selected is entitled as "Job satisfaction of employees in State bank of India, Tiruchirappalli District". This study is undertaken to find out the level of job satisfaction among the employees of State Bank of India. Moreover this study is to know the impact of working condition, monetary benefits, Leave facilities and its impact on job satisfaction.

4) Review of Previous studies

RajKamal and Debashish sengupta (2009)[8] conducted a study on job satisfaction of Bank officers in UP. The study included 28 branches of one of the old and leading nationalized bank. The sample size was 100 officers out of which 80 officers

responded. They found that job satisfaction of bank employees is essential to the production. Based on the findings, it was suggested that understanding factors related to job satisfaction among bank employees is key in formulating future policies and plans of the organisations. The study mainly focused on age as an important factor. Their analysis revealed that as a person ages, his job satisfaction shows an increasing trend. Younger employees have more energy, more expectations and more options and hence have lesser satisfaction with the job.

5. Scope of the study

This study aims to measure the level of job satisfaction of the employees of the State Bank of India in Tiruchirappalli District. It covers different cadres of employees working in the State Bank of India such as officers, clerical staff and sub staff.

6. **Objectives of the study**

The research study was undertaken with the following objectives:

1) To examine the relationship between job satisfaction and human resource development in State Bank of India.

2) To find out the facilities provided by the State Bank of India to the Bank employees.

3) To study the level of job satisfaction of employees in State Bank of India.

4) To identify the key factors influencing job satisfaction of employees in State Bank of India.

5) To identify the problems hindering the job satisfaction of bank employees and make recommendations for improving the job satisfaction level of employees in State Bank of India.

7. **Research Hypotheses**

Hypothesis 1: There is no significant relationship between the **Gender of the employees** and their level of satisfaction.

Hypothesis 2: There is no significant relationship between the **Age of the employees** and their level of satisfaction.

Hypothesis 3: There is no significant relationship between the **Educational qualification of the employees** and their level of satisfaction.

Hypothesis 4: There is no significant relationship between the **Marital status of employees** and their level of satisfaction

Hypothesis 5 : There is no significant relationship between the **size of family of employees** and their level of satisfaction

8.Operational Definition Of Concepts

Bank

The bank refers to State Bank of India.

Employees

Employees refers to the employees of State Bank of India.

Attitude

Attitude is the way an individual tends to interpret, understand or define a situation or his relationship with others.

Monetary Benefits

Benefits received by the employees in the term of cash are known as monetary benefits.

Working Environment

Working Environment means the total working infrastructure of the job.

9.Geographical Area Of The Study

Trichy is a thriving commercial Centre in Tamil Nadu. The historical city of Tiruchirappalli, popularly known as Tiruchi or Trichy, situated on the banks of the river Cauvery. Cauvery river flows through the length of the district and is the principal source of irrigation and water supply.

There are about 47 public and private sector banks in Tiruchirappalli District. Among these 47 banks, State Bank of India is the leading Public sector bank which has 44 Branches including zonal office in Tiruchirappalli District.

10. Period Of Study

The period of the study is 2012-2015.The primary data were collected from October 2013 to June 2014 for the period of 8 calendar months.

11.Methodology

The methodology for the study is analytical and descriptive. Keeping the objectives of the study in mind, both desk and field survey method have been adopted. Initially the zonal office of the bank were visited and discussions were held with the Bank's Human Resource Manager and other bank employees regarding the research. In their opinion till date no such study has been done related to the employees of their bank. They also showed their desire that if possible they wanted to review such study and it will be in good faith of the bank itself as it will be helpful in the formulation of the future policies and plans. So after getting the green signal from the employees, the study was carried out. The Research Design chosen was descriptive in nature. The branches were small to extra-large in size including regional and zonal offices. The data type was primary and the data were primarily collected by the administration of questionnaire and interview method. All the questionnaires were administered personally, and during the administration or after the administration, interactions with the respondents were made to facilitate the depth of interview. A five point Likert scale was used to measure the level of satisfaction of the employees of State bank of India. The responses of respondents were categorized into five groups and given them weight from minimum 1 to maximum 5. Then assigned point 1 for the response "Highly dissatisfied", 2 for "dissatisfied", 3 for "Neither satisfied nor dissatisfied", 4 for "Satisfied", 5 for "Highly satisfied". The data collected through questionnaire were subject to computations in the form of table

which made the calculations and analysis easy. Simultaneously, during interpretation of the collected data, the statements, observations or recommendations/suggestions made by the officers during personal interview were tried to match to get a single conclusion.

12. Sampling Design

The Sampling Technique used was Stratified (Proportionate) random sampling. SBI provides a range of banking products through its network of branches in India and overseas, including products aimed at non-resident Indians (NRIs). State Bank of India (SBI) is a multinational banking and financial services company based in India. It is a government-owned corporation with its headquarters in Mumbai, Maharashtra. SBI has 14 regional hubs and 57 Zonal Offices that are located at important cities throughout India. Tamilnadu falls under Chennai circle. Chennai circle has 5 modules namely Chennai, Madurai, Coimbatore,

Salem and Tiruchirappalli. In Tiruchirapalli module, there are 4 regions. Region 1 consists of Tiruchirappalli District alone, Region 2 consists of Thanjavur and Pudukkottai Districts, Region 3 consists of Perambalur and Ariyalur Districts and Region 4 consists of Karur. There are 42 branches in Tiruchirappalli district. The study included all the 42 branches of State Bank of India in Tiruchirappalli District. The branches were small to extra-large in size including regional and zonal offices.

The sample size considered for the study is 300 employees from the following branches of State Bank of India. The Study was conducted on three different levels of employees like Officers, Clerical and Sub Staff.

13.Tools for Collection of Data

Primary data have been collected through administering the questionnaires personally to employees of State Bank of

India. The responses are analyzed and evaluated to extract the required information.

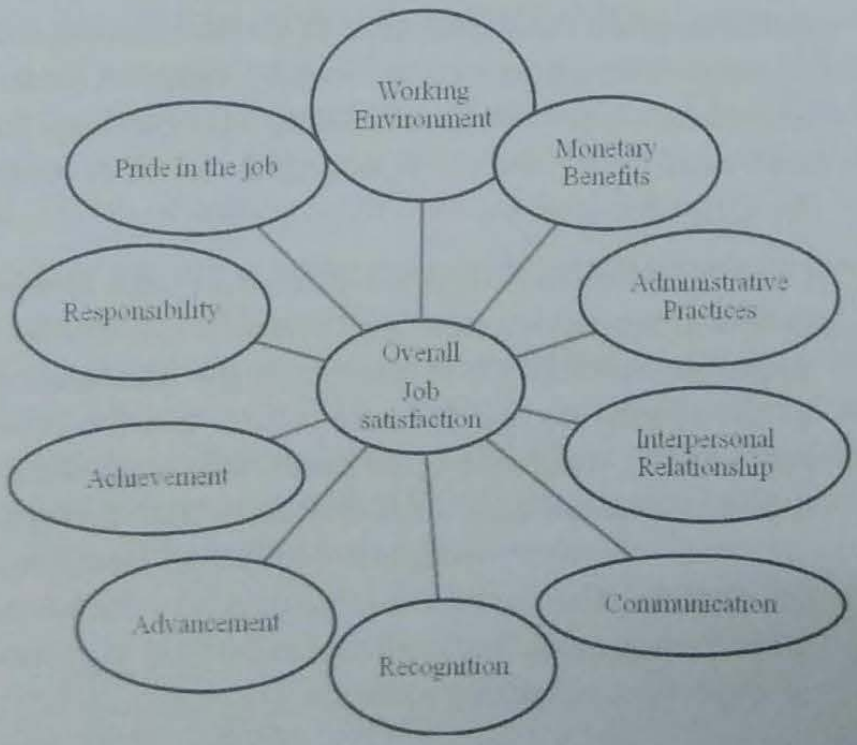
Secondary data have been collected by way of personal meeting with employees of State bank of India and also various reports collected from them. Information were also collected from websites, bank journals, magazines etc.

14.Framework of analysis

The data analysis has been performed using SPSS Software. Both parametric and non- parametric statistics were used to analyze the collected data. The statistical tools used in this study are, Simple percentages, Mean, Chi-square Test, Krukal Wallis Test, One Way Anova, T test, Inter Correlation matrix.

15. Conceptual model of the study

Job Satisfaction is a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience. The important factors that matter in job satisfaction are conceptualized below.



According to Herzberg's two factor theory, the factors namely Advancement, Recognition, Achievement, Responsibility, Pride in the job were associated with high levels of satisfaction, and so Herzberg referred them as motivators. However, dissatisfaction was related to extrinsic factors namely, working environment, Interpersonal Relationships, Monetary Benefits, Administrative Practices, and Communication. These factors generated dissatisfaction when present and so they are referred to as hygiene or maintenance factor. Thus Herzberg suggested that the opposite of Satisfaction is No Satisfaction and the opposite of Dissatisfaction is No Dissatisfaction. Therefore, motivators when present at high levels contribute to job satisfaction, However, when absent does not lead to job dissatisfaction just less satisfaction. Similarly hygiene factors only contribute to dissatisfaction when present but not to satisfaction when absent.

16. Chapter Design

The present study is classified into six chapters.

CHAPTER I - INTRODUCTION AND DESIGN OF THE STUDY deals with the importance of human resources in banking sector, the significance of job satisfaction, Statement of the problem, Scope of the study, Objectives of the study, Hypotheses, Operational definitions, Methodology, Statistical tools used, Data Collection, Geographical Area of the study and the Chapter Scheme.

CHAPTER II -REVIEW OF LITERATURE focuses on the review of the previous studies conducted on job satisfaction of employees in Banking Sector with regard to demographic profile of the employees and job satisfaction and the relationship between job satisfaction and productivity, job involvement, organizational policies, welfare policies provided by the bank, employee turnover, absenteeism, factors contributing job satisfaction. The reviews also includes how the present study differ from other studies conducted in the field of job satisfaction of employees in banking sector.

CHAPTER III -FACILITIES PROVIDED BY THE BANK discusses the overall picture of State Bank of India and its branches, classification of employees. It also focusses on various policies available in State Bank of India such as Transfers, Promotions, Recruitment Policy, Performance Appraisal system and Training and also identifies the various facilities provided by state bank of India to its employees such as Infrastructure facilities, Leave facilities, Loan facilities, Regulated working hours, Grievance Redressal System, Medical aid, Provident fund, Gratuity, Pension,

CHAPTER IV –THE EXTENT OF JOB SATISFACTION OF BANK EMPLOYEES identifies the various components of job satisfaction of bank employees of State Bank of India. The variables analysed such as Working Environment, Monetary Benefits, Administrative Practices, and Communication, Inter personal Relationship, Recognition, Achievement, Advancement, Responsibility and Pride in the Job. The simple percentage analysis, mean, standard deviation, inter correlation matrix, were used to find out their relationship between the various components and job satisfaction of bank employees.

CHAPTER V – FACTORS CONTRIBUTIG TO JOB SATISFACTION OF BANK EMPLOYEES concentrates the level of job satisfaction of employees of state Bank of India with the help of the statistical tools such as t test, F test, Kruskal Wallis Test, Chi Square test to find out the extent of job satisfaction of employees of State Bank of India.

CHAPTER VI – FINDINGS, SUGGESTIONS AND CONCLUSTION briefly explains the findings of the present study and also the suggestions given to the state bank of India for the betterment of the employee satisfaction level and concluded with the employees of State Bank of India are highly satisfied with their job and they feel very proud to be the part of bank. This chapter also deals with the scope for future research.

SELF ASSESSMENT QUESTION

1. What is Research Problem?
2. Define Research Problem.
3. What is meant by Research Design?
4. Define Research Design.
5. Write short note on formulation of Research Problem.
6. What are the steps in the formulation of Research Problem
7. Explain the Sources of Research Problem
8. How will you identify the Research Problem?
9. How will you Select the Research Problem
10. Explain the Criteria for selecting good research problem.
11. Factors affecting Research design
12. Discuss the qualities of good Research Design.
13. Explain the different stages in the preparation of Research Design.
14. How will you evaluate the Research Design.
15. Bring out the Model Research Design.

UNIT - III
HYPOTHESIS

UNIT- III Hypothesis —Characteristics of good Hypothesis– Types – Sampling – Nature - Simple, Probability, Complex Probability and Non-probability.

Meaning of Hypothesis

A hypothesis is a tentative statement about the relationship between two or more variables which direct the research activity to test it. It is a statement about a population parameter. A hypothesis is a testable prediction which is expected to occur. It can be a true or false statement that tested in the research to check its authenticity.

Sometimes, it is very difficult to start a research without having a valid foundation. Hence, the research builds a logical relationship between various phenomena to start working on the research. This logical relationship is relevant to the theme of the research. This logical relationship between various phenomena is called a hypothesis.

Definition of hypothesis

According to Goode and Hatt, " A hypothesis is proposition which can be put to test determine its validity"

According to Lundberg , " A hypothesis is a tentative generalisaiton, the validity of which remains to be tested. At the elementary level, it may be a ,mere hunch, guess and imaginative data, which becomes the basis for action or investigation.

Characteristics of hypothesis: Hypothesis must possess the following characteristics:

1. Hypothesis should be clear and precise. If the hypothesis is not clear and precise, the inferences drawn on its basis cannot be taken as reliable.

2. Hypothesis should be capable of being tested. In a swamp of untestable hypotheses, many a time the research programmes have bogged down. Some prior study may be done by researcher in order to make hypothesis a testable one. A hypothesis "is testable if other deductions can be made from it which, in turn, can be confirmed or disproved by observation."

3. Hypothesis should state relationship between variables, if it happens to be a relational hypothesis.

4. Hypothesis should be limited in scope and must be specific. A researcher must remember that narrower hypotheses are generally more testable and he should develop such hypotheses.

5. Hypothesis should be stated as far as possible in most simple terms so that the same is easily understandable by all concerned. But one must remember that simplicity of hypothesis has nothing to do with its significance.

6. Hypothesis should be consistent with most known facts i.e., it must be consistent with a substantial body of established facts. In other words, it should be one which judges accept as being the most likely.

7. Hypothesis should be amenable to testing within a reasonable time. One should not use even an excellent hypothesis, if the same cannot be tested in reasonable time for one cannot spend a life-time collecting data to test it.

8. Hypothesis must explain the facts that gave rise to the need for explanation. This means that by using the hypothesis plus other known and accepted generalizations, one should be able to deduce the original problem condition. Thus hypothesis must actually explain what it claims to explain; it should have empirical reference.

Importance of Hypothesis

1. It gives a direction to the research.
2. It specifies the focus of the researcher.

3. It helps in devising research techniques.
4. It prevents from blind research.
5. It ensures accuracy and precision.
6. It saves resources – time, money and energy

Types of Hypothesis

The types of hypotheses are discussed below.

1. Simple hypothesis
2. Complex Hypothesis
3. Working or Research Hypothesis
4. Null Hypothesis
5. Alternative Hypothesis
6. Logical Hypothesis
7. Statistical Hypothesis

1.Simple Hypothesis

A Simple hypothesis is a hypothesis that reflects a relationship between two variables such as independent variable and dependent variable.

Example:

Higher the unemployment, higher would be the rate of crime in society.

Higher the poverty in a society, higher would be the rate of crimes.

2. Complex Hypothesis

A Complex hypothesis is a hypothesis that reflects relationship among more than two variables.

Example:

Higher the poverty, higher the illiteracy in a society,

higher will be the rate of crime (three variables – two independent variables and one dependent variable).

3.Working Hypothesis

A hypothesis, that is accepted to put to test and work on in a research, is called a working hypothesis. It is a hypothesis that is assumed to be suitable to explain certain facts and relationship of phenomena. It is hoped that this hypothesis would generate a productive theory and is accepted to put to test for investigation. It can be any hypothesis that is processed for work during the research.

4.Alternative Hypothesis

If the working hypothesis is proved wrong or rejected, another hypothesis is formulated to be tested to generate the desired results. This is called as an alternate hypothesis. As the name indicates, it is an alternate assumption which is adopted after the working hypothesis fails to generate required theory. Alternative Hypothesis is denoted by H1.

5.Null Hypothesis

A null hypothesis is hypothesis that expresses no relationship between variables. It negates association between variables.

Example: There is no relationship between Poverty and the rate of crime in the society.

A null hypothesis has its purpose. A null hypothesis is made with an intention where the researcher wants to disapprove, reject or nullify the null hypothesis to confirm a relationship between variables. A null hypothesis is denoted by H0.

6.Statistical Hypothesis

A hypothesis, that can be verified statistically, is known as a statistical hypothesis.

It can be any hypothesis that has the quality of being verified statistically. It means using quantitative techniques, to generate statistical data, can easily verify it. It can also be said that the variables in a statistical hypothesis can be transformed into quantifiable sub variable to test it statistically.

7.Logical Hypothesis

A Hypothesis , that can be verified logically, is known as a logical hypothesis.

It is a hypothesis expressing a relationship whose interlinks can be joined on the basis of logical explanation. It can be verified by logical evidence. Being verified logically does not necessarily mean that it cannot be verified statistically. It may nor may not be verified statistically but it can be verified logically.

Criteria of good hypothesis

The Criteria of a Good Hypothesis in Research Methodology are a set of predefined characteristics. Whatever may be the types of research works and studies, one thing that is important is that they all meet on the common ground of scientific method employed by them. One expects scientific research to satisfy the following criteria:

1. The purpose of the research should be clearly defined and common concepts bemused.
2. The research procedure used should be described in sufficient detail to permit another researcher to repeat the research for further advancement, keeping the continuity of what has already been attained.
3. The procedural design of the research should be carefully planned to yield results that areas objective as possible.
4. The researcher should report with complete frankness, flaws in procedural design and estimate their effects upon the findings.

5. The analysis of data should be sufficiently adequate to reveal its significance and the methods of analysis used should be appropriate. The validity and reliability of the data should be checked carefully.

6. Conclusions should be confined to those justified by the data of the research and limited to those for which the data provide an adequate basis.

7. Greater confidence in research is warranted if the researcher is experienced, has a good reputation in research and is a person of integrity.

MEANING OF SAMPLING

Sampling can be defined as the method or the technique consisting of selection for the study of the so called part or the portion or the sample, with a view to draw conclusions or the solutions about the universe or the population.

Sampling means the process of selecting a part of the population. A population is a group of people that is studied in a research. These are the members of a town, a city or a country. It is difficult for a researcher to study the whole population due to limited resources e.g. time, cost and energy. Hence, the researcher selects a part of the population for his study, rather than studying the whole population. This process is known as sampling. It makes the research activity manageable and convenient for the research.

The reliability of the findings of a research depends upon how well you select the sample. A sample should be a true representative of the whole population. It should include persons from various sections and spheres of the population in order to become a true representative of the population.

The terminologies relevant to sampling ar as follows:

Sample: The selected part of the population is known as sample.

Sample Size: The number of people in the selected sample is known as sample size.