RESEARCH METHODOLOGY

Meaning of research

Research is a process steps used to collect and analyse information to increase our understanding of a topic or issue.

It consists of three steps:

1) Pose a question
2) Collect data to answer the question
3) Present an answer to the question

MEANING OF RESEARCH

- Research means search for knowledge.
- It aims at finding out truth.
- Art of Scientific investigation
- Way of thinking, Critically examining aspects of daily life.
- Fact finding process. A movement from the known to unknown.
- Research is an Organised and Systematic way of Finding the Answers to Questions.

RESERACH

- Re ---------- Search
- Re means (once more, afresh, anew) OR (back; with return to a previous state)
- Search means (look thorough or go over thoroughly to look something) OR (examine to find anything concealed)

Research?

Research is an ORGANIZED and SYSTEMATIC way of FINDING ANSWERS to QUESTIONS.

DEFINITION OF RESEARCH

According to Clifford Woody (Kothari 1988) research comprises of ,

"Defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organizing and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis."

According to Redman and Mory (1923), defined research is a

"systematized effort to gain new knowledge".

In the Encyclopedia of Social Sciences, D. Slesinger and M. Stephension (1930) defined research as

"the manipulation of things, concept or symbols for the purpose of generalizing to extend, correct or verify knowledge, whether that knowledge aids in construction of theory or in practice of an art".

Objectives of research (Aim or Purpose)

1. To gain familiarity with a phenomenon or to achieve new insights into it

2. To portray accurately the characteristics of a particular individual, situation or a group

3. To determine 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. Reliabity
2. Validity
3. Accuracy
4. Credibility
5. Generalizability
6. Empirical
7. Systematic approac
8. Controlled

Significance of research
(Importance or Use)

famous Hudson Maxim,
"*All progress is born of inquiry. Doubt is often better than overconfidence, for it leads to inquiry, and inquiry leads to invention*"

- Research encourages scientific and inductive thinking, besides promoting the development of logical habits of thinking and organisation.

- The role of research in applied economics in the context of an economics or business is greatly increasing in modern times
- Research assumes a significant role in the formulation of economic policy for both, the government and business
- Research is also necessary for collecting information on the social and economic structure of an economy to understand the process of change occurring in the country
- Research also assumes significance in solving various operational and planning problems associated with business and industry.
- Research helps in solving social problems.

Business Research

Business research is defined as
'The systematic and objective process of collecting, recording, analyzing and interpreting data for aid in solving managerial problems'

Business aspect- Research issues	
Consumer behavior	Buying habits, brand preference, consumer attitudes
Human resources	Employee attitudes, staff retention, material incentives
Promotion	Media research, public relations studies, product recall through advertising
Product	Test markets, concept studies, performance studies
Finance	Forecasting, budgeting, efficiency of accounting software

TYPES OF RESEARCH

- There are different types of research based on different aspects such as:
  - Purpose,
  - Process
  - Outcome

Different types of research coming under the category ***purpose*** are:

I. Descriptive research
II. Analytical research
III. Exploratory research
IV. Predictive research

DESCRIPTIVE RESEARCH

- It includes fact-finding enquiries of different kinds such as what, why, when, who, how and all.
- The main aim of this research is description of the characteristics of a phenomena at present.
- This research has no control over the variable only have to report what is happening or what has happened
- For description researchers use frequencies, averages and other statistical calculations.
- The methods used by this researchers involves survey method of all kind including comparative and correlational method
- The periodic table categorizes the elements is an example of descriptive research

ANALYTICAL RESEARCH

- This research mainly carrying out analysis on a phenomena and which involves secondary data.
- The aim of this research is to understand phenomena by discovering and measuring causal relations among them.
- Here the researcher use facts or information's readily available to them in order to analyze to make a critical evaluation of the context.
- It work within the constraints variables. It also tries to explain existing state of affairs from available data.
- How can the absentee rate among employees be reduced? It is an example of analytical research

EXPLORATORY RESEARCH

- An exploratory design is conducted about a research problem when there are few or no earlier studies to refer to.
- The focus is on gaining insights and familiarity for later investigation or undertaken when problem are in a preliminary stage of investigation.
- Gathers preliminary information that will help to define a problem and suggest a hypothesis.
- It commonly use unstructured interview.
- It involves generation of new ideas and assumption, development of tentative theories or hypothesis but conclusions cannot be drawn even though it provide direction for future research and techniques

PREDICTIVE RESEARCH

- It studies determine the frequency with which something occurs or its association with something else.
- In diagnostic research the researcher must be able to define clearly, what he wants to measure and must find adequate method for measuring t along with clear cut definition of 'population' he wants to study.
- Statistical tools used in this research design includes regression, linear regression and logistic regression
- The major areas in which predictive / diagnostic research design used include: business, marketing, clinical setting, govt agency and all

Different types of research coming under the category ***process*** are:

1. Qualitative research
2. Quantitative research

QUALITATIVE RESEARCH

- It is handled with qualitative phenomena that involves quality or kind.
- The research designed to find out how people feel or what people often think are coming under this research.
- it is important in behavioral sciences.
- Its aim is to discover the underlying motives of human behavior through detailed description.
- The data is in the form of words, pictures or objects and all

QUANTITATIVE RESEARCH

- This research is based on the measurement of quantity or amount.
- It can only be expressed in terms of quantity.
- Researcher use tools such as questionnaire or equipment to collect data and all aspect of the study are carefully designated before data is collected.
- Here data is in the form of numbers or statistics and this data is more efficient and able to test

Different types of research coming under the category ***outcome*** are:

1. Applied or action research
2. Fundamental or Basic or pure research

APPLIED RESEARCH

- It is defined as a research which is used to answer a specific question, solve a specific problem or to gain better understanding.
- It also known as action research.
- It aims at finding solution for an immediate problem facing in society or an organization through systematic inquiry involving practical application of science, based on the level and type of involvement researcher can differ this research based ion the scope of work.
- It is designed to solve problem of modern world than acquire knowledge. The main goal of applied scientist is to improve the human condition for example: treat or cure a specific disease

FUNDAMENTAL OR BASIC OR PURE RESEARCH

- This research is concerned with generalization and formulation of theory.
- It is done for the intellectual pleasure on learning and it has no commercial value attached to the discoveries that result from basic research.
- This type of research has limited direct applications but in which researcher has careful control over the research setting.
- It involves collection and analysis of data to develop or enhances theory and have an understanding of theoretical relationship between variables

Some other types of researchers are also there

- **ONE TIME RESEARCH/ LONGITUDINAL RESEARCH**

In this research one group have to studied for long time and it studies different stages in an individual's life and all

- **FIELD SETTING RESEARCH/ LABORATORY RESEARCH/ SIMULATION RESEARCH**

This research is depending upon the environment take into consider for research

- **CLINICAL RESEARCH**

There type of research follows case-study method and have an in depth approach in order to study causal relationships

- **HISTORICAL RESEARCH**

In this research researcher utilizes historical sources like documents, events and all in order to understand past, point of time and all

- **CONCEPTUAL RESEARCH**

This research is completely based on some abstract ideas or theory

- **EMPIRICAL RESEARCH**

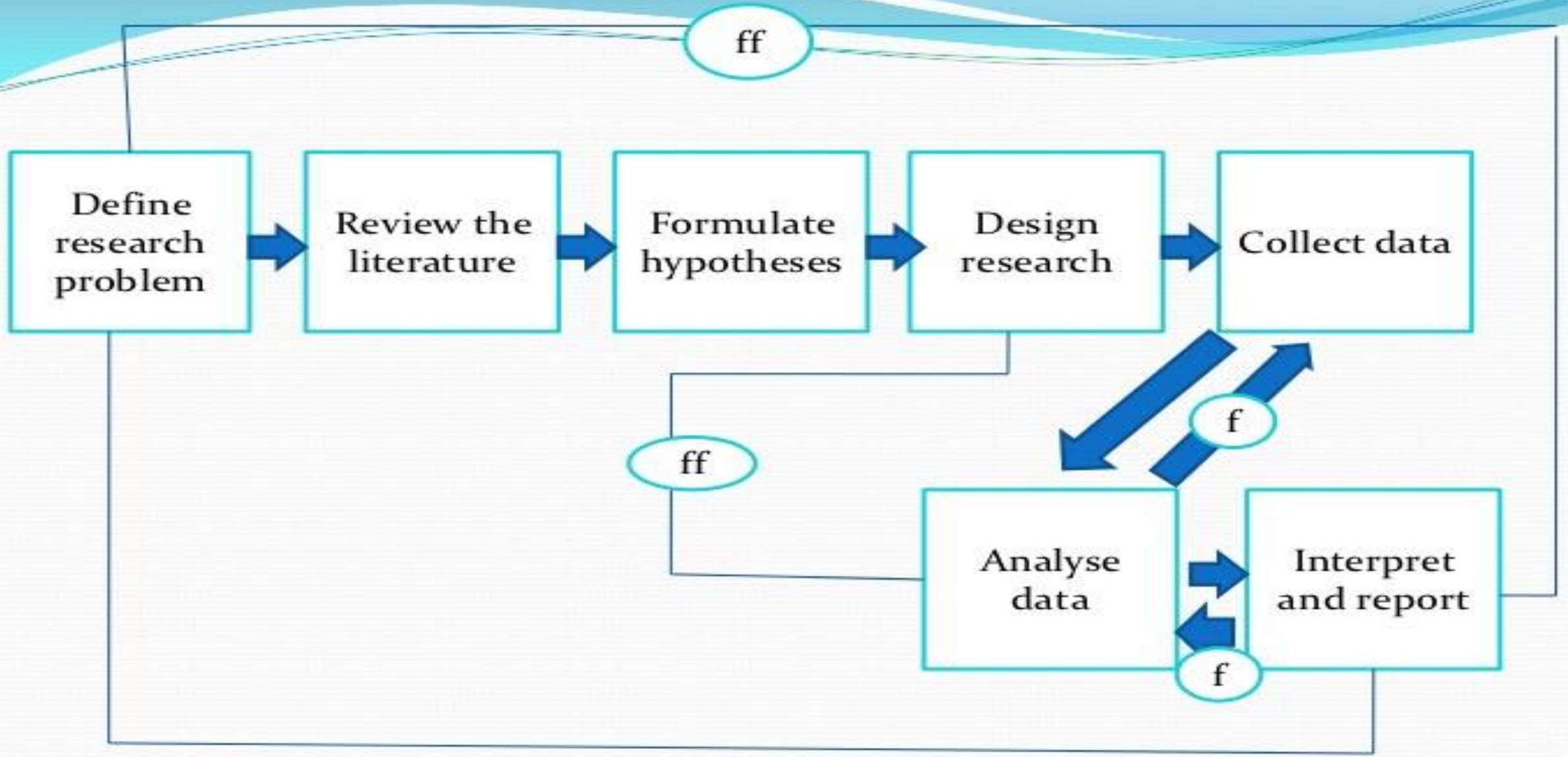
It is completely based on experiences or observations

TYPES OF RESEARCH:

basis	description
1. Descriptive vs. Analytical research	*DESCRIPTIVE*: Attempts to determine ,describe things. *ANALYTICAL*: Attempts to establish why it is that way.
2. Quantitative vs. Qualitative research	*QUANTITATIVE*: Based on options and experiences. *QUALITATIVE*: Based on numbers.
3. Conceptual vs. Empirical research	*CONCEPTUAL*: Related to some abstract idea or theory. *EMPERICAL* : Also known as Experimental research it relies on experience and observations.
4. Applied vs. Fundamental research	APPLIED: Discovering solution for some practical knowledge. FUNDAMENTAL: Directed towards finding information that has broad base of applications.

7 STEPS OF RESEARCH PROCESS

- Step One: Define research problem
- Step Two: Review of literature
- Step Three: Formulate hypotheses
- Step Four: Preparing the research design
- Step Five: Data collection
- Step Six: Data analysis
- Step Seven: Interpretation and report writing



Where f = feed back(helps in controlling the sub system
ff= feed forward(serves the vital function of providing criteria for evaluation

RESEARCH PROCESS:

1) **Topic/ research title**: Title plays a major role in research.
2) **Literature review**: Review of literature will help in strong content.
3) **Study design**: predesign of the content will make research clear.
4) **Measurement**: Taking effective measurements will help in effective research.
5) **Data collection**: Clear data collection.
6) **Data analysis**: Analysing the collected data clearly.
7) **Interpretation**: Interpreting the data's properly.
8) **Conclusion**: Should precise the content and show in conclusion.