Research Methodology
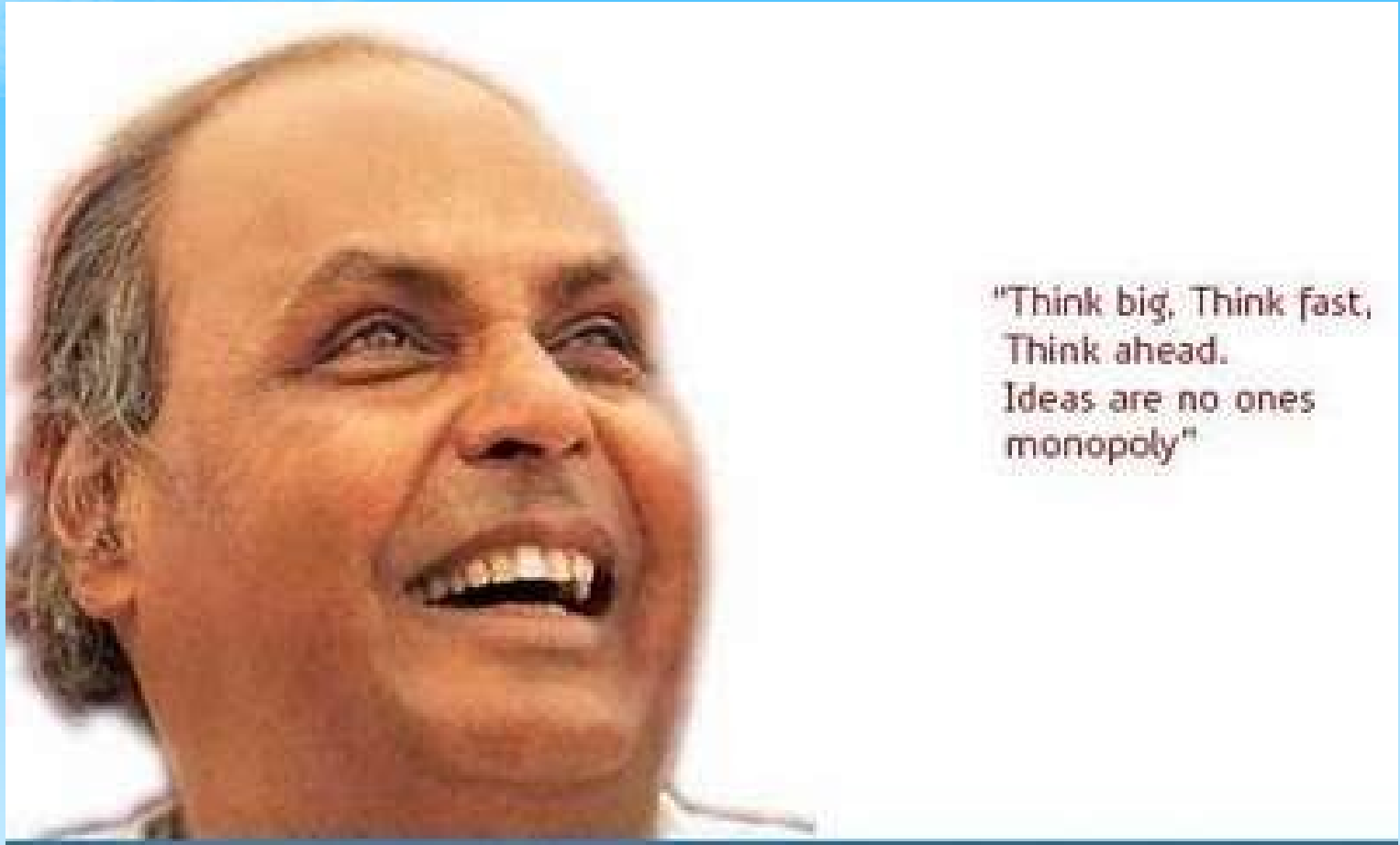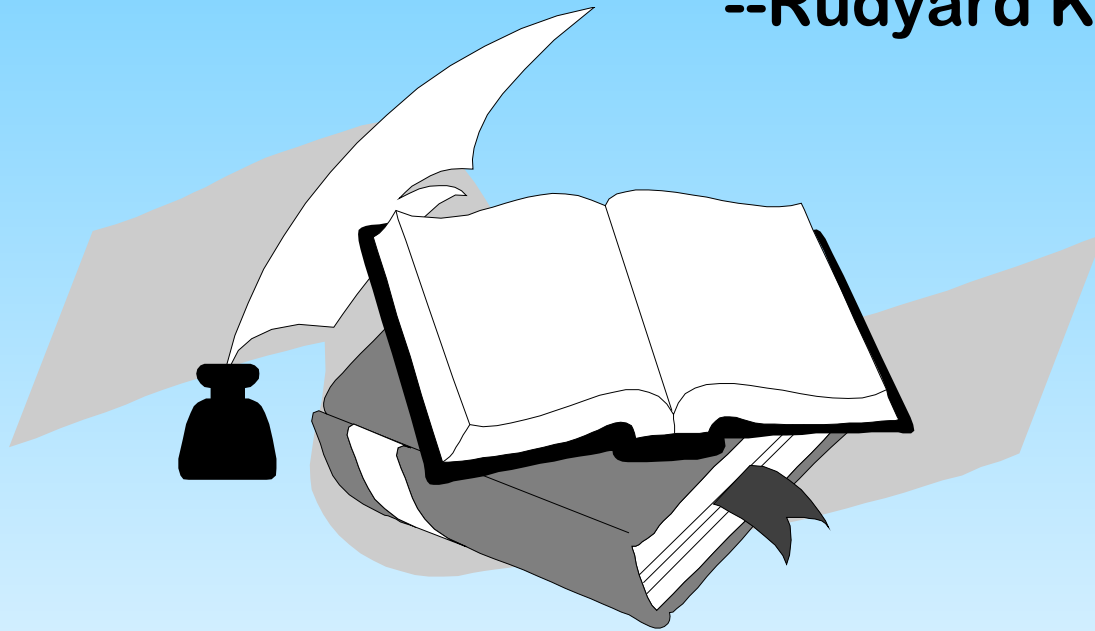
"Think big. Think fast.
Think ahead.
Ideas are no ones
monopoly"

"I keep six honest serving men, (they taught me all I knew), their names are

what, and why, and when, and how, and where and who."

--Rudyard Kipling

What is Research?

What is research?

- ✓ Research means finding answers to the questions.

- ✓ It is a systematic search for truth.

- ✓ Through research, new and original information, ideas about the world we live in, are obtained.

- ✓ Research is search for knowledge.

- ✓ Research is defined as a scientific and systematic search for information on a specific topic.
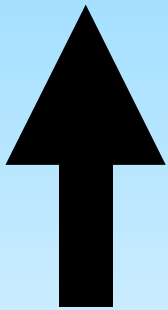
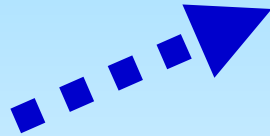# Why Research?

Curiosity

Funding

Quality of Life

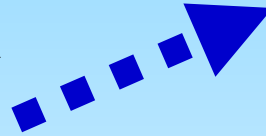Utility of Applications

Advancement of Technology

Amount of knowledge
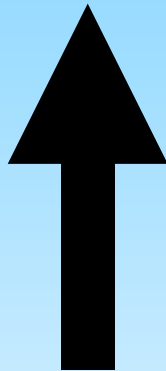
Application Development

Applied Research

Basic Research
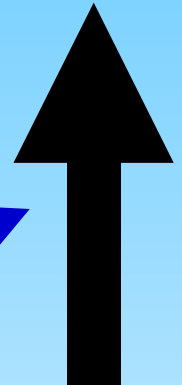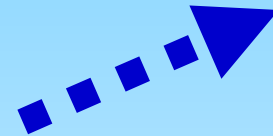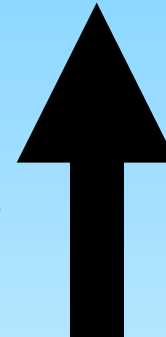
Which of these can be classified as research?

[1] Samad prepared a paper on "computer usage in secondary schools" after reviewing literature on the subject available in his university library.

[2] Manoj says that he has researched and completed a document which gives information about the age of his students, their results, their parents income and distance of their schools from the District Office.

[3] Kim participated in a workshop on curriculum development and prepared what he calls, a report on the curriculum for Engineers.

None of the above examples can be classified under the name research.

Consider the following case which is an example of research

- A general manager of a car producing company was concerned with the complaints received from the car users that the car they produce have some problems with sound at the dash board and the rear passenger seat after few thousand kilometers of driving.
- He obtained information from the company workers to identify the various factors influencing the problem.
- He then formulated the problem and generated guesses (hypotheses).
- He constructed a checklist and obtained requisite information from a representative sample of cars.
- He analyzed the collected data, interpreted the results in the light of his hypotheses and reached conclusions.

WHAT IS RESEARCH?
• Research is systematic, because it follows certain
steps that are logical in order. These steps are:
1. Understanding the nature of problem to be studied and
identifying the related area of knowledge.
2. Reviewing literature to understand how others have
approached or dealt with the problem.
3. Collecting data in an organized and controlled manner
so as to arrive at valid decisions.
4. Analyzing data appropriate to the problem.
5. Drawing conclusions and making generalizations.

DEFINITION OF RESEARCH

• Redman and Mory "Systematized effort to gain new knowledge"

• Organized scientific investigations to solve problems, test hypotheses, develop or invent new products.

Types of Research Questions and Results

What's out there?

What does it look like?

How does it work?

How well does a method solve a problem?

Why does something happen the way it happens?

Predictive (Models): What would happen if --------------- ?

Examples

Driven by new data: X is a new type of data emerging

How is X different from existing types of data?
What new issues/problems are raised by X?
Are existing methods sufficient for solving old problems on X? If not, what are the new challenges?
What new methods are needed?
Are old evaluation measures adequate?

Driven by new users: Y is a set of new users (e.g., ordinary people vs. librarians)
How are the new users different from old ones? What new needs do they have?
Can existing methods work well to satisfy their needs? If not, what are the new challenges?
What new functions are appropriate for Y?

Driven by new tasks (not necessarily new users or new data): Z is a new task (e.g., social networking, online shopping)
What information management functions are needed to better support Z?
Can these new functions reduced to old ones? If not, what are the new challenges?

Research Idea	Research Question
1. Job recruitment via the internet	1. How effective is recruiting for new staff via the internet in comparision with the traditional methods.
2. Advertising and share prices	2. How does the running of a TV advertising campaign designed to boost the image of a company affect.
3. The future of trade unions	3. What are the strategies that trade unions should adopt to ensure their future viability?

CRITERIA OF A GOOD RESEARCH

- Purpose clearly defined.
- Research process detailed.
- Research design thoroughly planned.
- High ethical standards applied.
- Limitations frankly revealed.
- Adequate analysis for decision maker's needs.
- Findings presented clearly.
- Conclusions justified.
- Researcher's experience reflected.

PROBLEMS IN RESEARCH

- Uncontrollable variables
- Human tendencies
- Time and money
- Lack of computerization
- Insufficient interaction between university research departments and business establishments
- Lack of confidence on the part of business units to give information

Role of research in management

Research is a systematic inquiry whose objective is to provide information to solve managerial problems.

Business Research Methods can be employed in each of the following four stages:

(1) Identification of problems and/or opportunities

(2) Diagnosing and Assessment of problems and/or opportunities

(3) Selection and Implementation of Courses of Action

(4) Evaluating the Course of Action

Selected Examples of Real-Life Situations in Which Business Research Methods are Used

➢ A firm wants to produce and market a new product but first wants to ascertain if there is a potential consumer demand for this product in markets x,y and z

➢ A multinational firm wants to establish a production facility in another country after determining its technical and economic feasibility

➢ A government agency wants to ascertain the satisfaction level of its employees, the causes for any possible discontent, and propose a scheme for enhancing this level

➢ A financial institution wants to invest in commodities and commissions a study to determine the past trends and forecast future returns in a portfolio of commodities

➢ MNC wants to find out the trends in retail and wholesale sector

Fields Where Research is Often Used – (1)

General Business Conditions and Corporate Research

- Short- & Long-Range Forecasting,
- Business and Industry Trends
- Global Environments
- Inflation and Pricing
- Plant and Warehouse Location
- Acquisitions

Management and Organizational Behaviour Research

- Total Quality Management
- Morale and Job Satisfaction
- Leadership Style
- Employee Productivity
- Organizational Effectiveness
- Structural ssues
- Absenteeism and turnover
- Organizational Climate

Financial and Accounting Research

Forecasts of financial interest rate trends,
Stock,bond and commodity value predictions
Capital formation alternatives
Mergers and acquisitions
Risk-return trade-offs
Portfolio analysis
Impact of taxes
Research on financial institutions
Expected rate of return
Capital asset pricing models
Credit risk
Cost analysis

Fields Where Business Research is Often Used – (2)

Sales and Marketing Research

- Market Potentials
- Market Share
- Market segmentation
- Market characteristics
- Sales Analysis
- Establishment of sales quotas
- Distribution channels
- New product concepts
- Test markets
- Advertising research
- Buyer behaviour
- Customer satisfaction
- Website visitation rates

Information Systems Research

Knowledge and information needs assessment

Computer information system use and evaluation

Technical suppot satisfaction

Database analysis

Data mining

Enterprise resource planning systems

Customer relationship management systems

Corporate Responsibility Research

Ecological Impact

Legal Constraints on advertising and promotion

Sex, age and racial discrimination / worker equity

Social values and ethics

RESEARCH PROCESS
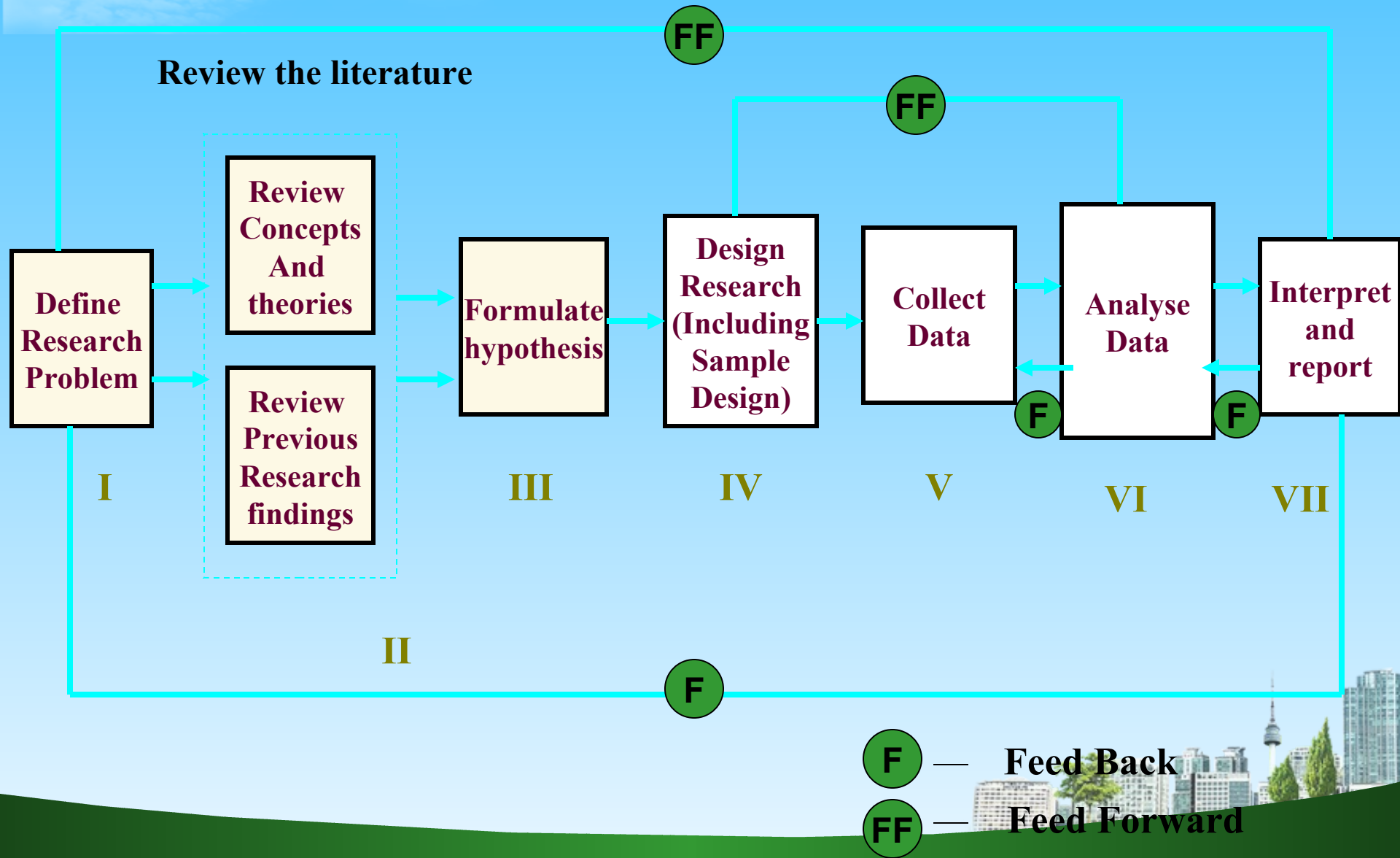
Components of Research

1. Title
2. Introduction
3. Statement of the Problem
4. Review of Literature
5. Objectives of the Study
6. Hypotheses for the Study
7. Research Design and Methodology
8. Conceptual Framework
9. Report Writing and Implications of the Study
10. Financial Assistance Required
11. Conclusion
12. Select Bibliography

1. Title

- It should be precise. (Words)

- It should be clear. (Conceptual)

- It should be specific. (Scope)

- It should be catchy. (Attractive)

--------------Examples

Incorrect Title:
A Study of Implementation of Data Mining Techniques for Effective Crime and Criminal Investigation

Correct Title:
An Implementation of Data Mining Techniques for Effective Investigation of Crimes: A Study of Satara and Pune Districts.

Simple Way:
Financial and Operational Performance Analysis of Mergers and Acquisitions in Indian Banking Sector: A Study

Attractive Way:
Analysis of Mergers and Acquisitions in Indian Banking Sector in Post Liberalization Era: An Exploratory Study

Or

Impact of Mergers and Acquisitions on Performance of Indian Banks in Post Liberalization Era

- It is expected to introduce chosen research problem / topic covering its origin, meaning, purpose, developments at international / national / regional level and its present status.

- The very idea of this component in the research proposal is to acquaint readers with the research problem.

- Proposed research topic should have a genuine need for investigation.

- Do the following need an investigation ?
- High turn over of employees of a reputed five star hotel affecting its revenue.
- An increasing trend of farmers' suicides in a particular region.
- Decelerating sales trend of a well known and popular automobile company affecting its sales revenue.

Yes

RESEARCH PROBLEM

What is a research problem?

❖ The term 'problem' means a question or issue to be examined.

❖ Research Problem refers to some difficulty /need which a researcher experiences in the context of either theoretical or practical situation and wants to obtain a solution for the same.

HOW DO WE KNOW WE HAVE A RESEARCH PROBLEM?

* Customer complaints
* Conversation with company employees
* Observation of inappropriate behaviour or conditions   in the firm
* Deviation from the business plan
* Success of the firm's competitor's
* Relevant reading of published material (trends, regulations)
* Company records and reports.

SOURCES OF PROBLEMS

- Reading
- Academic Experience
- Daily Experience
- Exposure to Field Situations
- Consultations
- Brainstorming
- Research
- Intuition
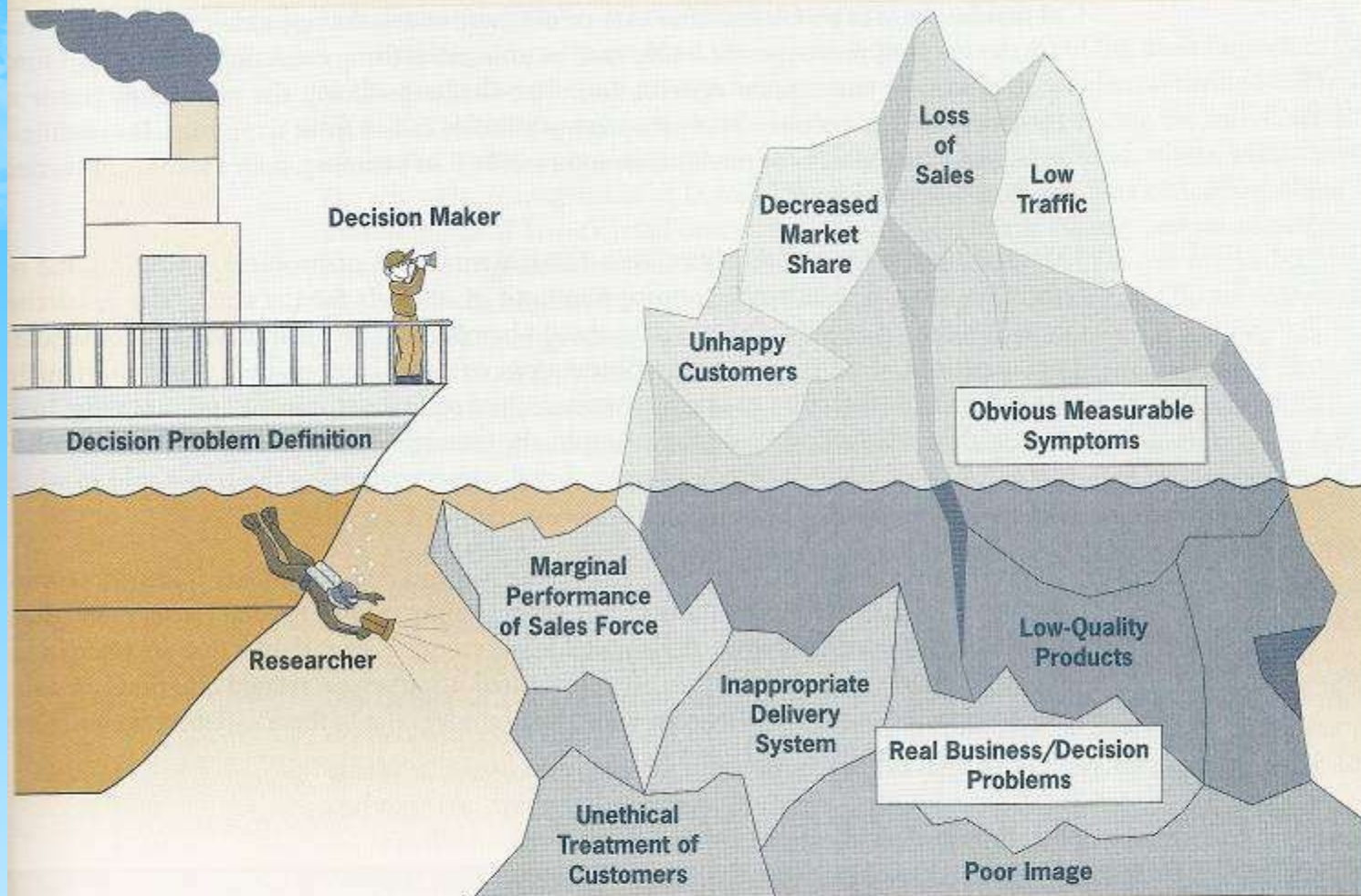
The iceberg principle states that in many business problem situations the decision maker is aware of only 10 percent of the true problem. Often what is thought to be the problem is nothing more than an observable outcome or symptom (i. e., some type of measurable market performance factor), while 90 percent of the problem is neither visible to nor clearly understood by decision makers. For example, the problem may be defined as "loss of market share" when in fact the problem is ineffective advertising or a poorly trained sales force. The real problems are submerged below the waterline of observation. If the submerged portions of the problem are omitted from the problem definition and later from the research design, then decisions based on the research may be less than optimal.

CRITERIA OF SELECTION

Factors

  📖 Internal / Personal criteria – Researcher's Interest, Researcher's Competence, Researcher's own Resource: finance and time.

  📖 External Criteria or Factors – Researchability of the problem, Importance and Urgency, Novelty of the Problem, Feasibility, Facilities, Usefulness and Social Relevance, Research Personnel.

IDENTIFICATION / SELECTION OF THE RESEARCH PROBLEM

⭐Identification / Selection of the Problem

⭐Formulation of the Problem

✎There are two ways of stating a problem:

  ✎Posting question / questions

  ✎Making declarative statement / statements

Steps in defining a Problem

1. Statement of the problem in a general way

2. Understanding the nature of the problem

3. Surveying the available literature

4. Developing ideas through discussions

5. Rephrasing the research problem

Eg:Why is productivity in Japan so much higher than in India?

Brain storming

What sort of productivity is being referred?

What period?

Which sector?

Rephrasing:

What factors were responsible for the higher labour productivity of Japan's manufacturing industries during the period 1971-1980 relative to India's

REVIEW OF LITERATURE

REVIEW OF LITERATURE

❖ It is an extensive survey of all available past studies relevant to the field of investigation.

❖ It gives us knowledge about what others have found out in the related field of study and how they have done so.

PURPOSE OF REVIEW

- To gain a background knowledge of the research topic.
- To identify the concepts relating to it, potential relationships between them and to formulate researchable hypothesis.
- To identify appropriate methodology, research design, methods of measuring concepts and techniques of analysis.
- To identify data sources used by other researchers.
- To learn how others structured their reports.

SOURCES OF LITERATURE

* Books and Journals
* Electronic Databases
  - Bibliographic Databases
  - Abstract Databases
  - Full-Text Databases
* Govt. and Industry Reports
* Internet
* Research Dissertations / Thesis

RECORDING THE LITERATURE

*The most suitable method of recording notes is the card system.

*The recording system involves use of two sets of cards:

➤Source cards (3"x 5") – used for noting bibliographic information.

➤Note cards (5"x 8") – used for actual note taking.

SOURCE CARDS

* Source Cards serve two purposes:

a) Provide documentary information for foot notes.

c) It is used for compiling bibliography to be given at the end of the report.

SOURCE CARDS

*The recording of bibliographic information should be made in proper bibliographic format.

*The format for citing a book is:

Author's name, (year), Title of the book, Place of publication, Publisher's name.

*For Example; Koontz Harold (1980), Management, New Delhi, McGraw-Hill International.

*The format for citing a journal article is:

Author's name, (year), Title of the article, Journal name, Volume (number), pages.

*For Example; Sheth J.N (1973), A Model of Industrial Buying Behaviour, Journal of Marketing, 37(4), 50-56.

NOTE CARDS

*Detailed Information extracted from a printed source is recorded on the note cards.

*It is desirable to note a single fact or idea on each card, on one side only.

Points to be kept in mind while reviewing literature..

- Read relevant literature.
- Refer original works.
- Read with comprehension.
- Read in time.
- Index the literature.

Defining Problem, Results in Clear Cut Research Objectives..

Symptom Detection

Analysis of the Situation

Problem Definition

Statement of Research Objectives

5. ESTABLISHMENT OF RESEARCH OBJECTIVES

   Research Objectives are the specific components of the research problem, that you'll be working to answer or complete, in order to answer the overall research problem.   - Churchill, 2001

   The objectives refers to the questions to be answered through the study. They indicate what we are trying to get from the study or the expected results / outcome of the study.

ESTABLISHMENT OF RESEARCH OBJECTIVES

- Research Objectives should be clear and achievable.
- The objectives may be specified in the form of either statements or questions.
- Generally, they are written as statements, using the word "to". (For example, 'to discover …', 'to determine …', 'to establish …', etc.)

Research Question

1. Why have org's introduced team briefing?

2. How can the effectiveness of team briefing methods be measured?

3. Has team briefing been effective?

Research Objective

1. To identify org's objectives for team briefing schemes

2. To establish suitable effectiveness criteria for team briefing methods

3. To describe the effectiveness of team briefing

HYPOTHESIS

➢ Research Hypothesis is a predictive statement that relates an independent variable to a dependant variable.

Hypothesis must contain atleast one independent variable and one dependant variable.

7. Research Design and Methodology

A detailed blueprint specifying how the research will be carried out

Description / location of the study area.
Selection of company / enterprise.
Data source.
Selection of quantitative parameters.
Selection of qualitative parameters.
Selection of respondents.
Data collection instrument.
Respondents contact method.
Data analytical tool.
Scope of the study.
Duration of the study.

8. Conceptual Framework

- A clear meaning to different terms and concepts that are relating to the research problem. (Meaning)

- A clearly defined terms and concepts will hardly leave any room for confusions and doubts in terms of understanding the research problem. (Clear ideas)

9. Report Writing and Implication of the Study

- It is expected to highlight possible research findings and their usefulness in the interest of the community.

- For instance "A study on students' difficulty and drop outs in school education" will certainly bring forward actual causes responsible for the same and will serve as base for appropriate policy formulation to address the problems' of students.

10. Financial Assistance Required

- Costs need to be estimated as accurately as possible.

- Proposal involving economic costs will be appreciated.

- It is necessary to estimate cost of the research project and include the same in the proposal.

- Were the recommendations followed?

- Was sufficient information for decision-making information contained in the report?
- Could we have written a report more useful to management?