Research

Why Research? (Continued)

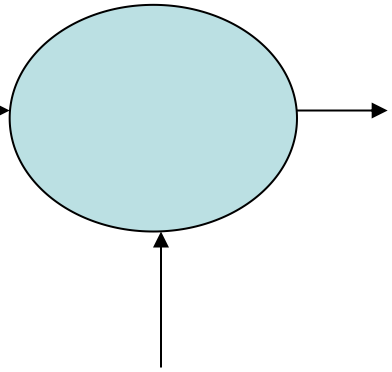
- More complex decisions
- Lower-cost data collection
- Better visualization tools
- Powerful computations
- Advanced analytical tools
- New perspectives on established research methodologies

What Research Is?

Research is the systematic process of collecting and analyzing information (data) in order to increase our understanding of the phenomenon about which we are concerned or interested.

What Research Is?

- **INFORMATION** → **KNOWLEDGE**



Research in broader sense?

- Research is an art of investigation of new and innovative aspects of any branch of knowledge. It comprises of defining and redefining problems, formulating hypothesis, suggest solutions or solution approaches, data deriving, experimenting and eventually validating the hypothesis or deducing new conclusions.

OR

- Research is also defined as search for knowledge for objective and systematic method of finding solution to a problem of formulating theories.

Don’t Make For Good Research

- Self-enlightenment.
- Comparing data sets.
- Correlating data sets.
- Problems with yes / no answers

Good Research Requires:

- The scope and limitations of the work to be clearly defined.
- The process to be clearly explained so that it can be reproduced and verified by other researchers.
- A thoroughly planned design that is as objective as possible.
- Highly ethical standards are applied.
- All limitations are documented.
- Data be adequately analyzed and explained.
- All findings are presented unambiguously and all conclusions be justified by sufficient evidence.

Good Research Requires: (cont..)

- Conclusions to be justified.
- Researcher experience reflected

Research is Also:

Culture: Research is a culture to be practice through continued quest for innovation

Attitude: Needs hard work, dedication, perseverance and an appropriate attitude.

Motivation: Research planning cannot and should not follow scheduled or time sensing approach

Dignity: Not everyone has to do research and it should not be pursued for glorification.

Motivations of Research

- Intellectual satisfaction of doing something innovative and creative .
- Meaningful and long-lasting contributions towards the advancements of mankind and society.
- Enjoy the challenges of solving unsolved problems.
- Attain higher level of understanding of fundamental concepts as well as practical significance.
- Degrees, financial benefits and respect comes along the way.

Classification of Research

Problem Identification Research
Research undertaken to help identify problems which are not necessarily apparent on the surface and yet exist or are likely to arise in the a. Examples: market potential, market share, image, market characteristics, sales analysis, forecasting, and trends research.

Problem Solving Research
Research undertaken to help solve specific marketing problems. Examples: segmentation, product, pricing, promotion, and distribution research.

Types of research

- Exploratory Research
- Descriptive research
- Causal research

Exploratory Research

- The objective of this research is to gather preliminary information that will help to define problems and suggest hypothesis. This particular research is conducted because a problem has not been clearly defined. This basically relies on secondary data or qualitative approaches. The result here is not usually useful for decision making.

Descriptive Research

- Main objective is to describe things. It is also called as statistical research as it describes data and characteristics about the population or phenomena studied.
- It answers the questions –who, what, when, where and how. But it is unable to create the causal relationship.
- *Descriptive research* includes surveys and fact-finding enquiries. The main characteristic of this method is that the researcher has no control over the variables; he can only report what has happened or what is happening

Causal Research

- The chief objective of causal research is to test hypothesis about cause and effect relationship. To be effective, the design of this research is highly structured and controlled so that the other factors do not affect the one under study.

- Descriptive Research: Surveys, Comparative and Correlational methods
- Analytical research: Analyze and make critical evaluation of information.
- Applied Research: Address practical problems and solution that can be implemented for near-term benefits.

Some more...

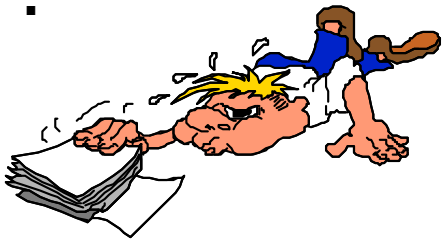
- Fundamental: Generalization and formulation of theories.
- Quantitative: Provides numerical results and validate the claims.
- Conceptual Research: Abstract ideas or theories.
- Emperical Research: relies on experience and observation.

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.

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

“Gathering knowledge for knowledge’s sake is termed ‘pure’ or
‘basic’ research.”

A Comparison of Basic Research Designs

	Exploratory	Descriptive	Causal
Objective:	**Discovery of ideas and insights**	**Describe market characteristics or functions**	**Determine cause and effect relationships**
Characteristics: 	**Flexible, versatile**	**Marked by the prior formulation of specific hypotheses**	**Manipulation of one or more independent variables**
	Often the front end of total research design	**Preplanned and structured design**	**Control of other mediating variables**
Methods:	**Expert surveys Pilot surveys Secondary data**	**Secondary data Surveys Panels Observation and other data**	**Experiments**

Research Characteristics

1. Originates with a question or problem.
2. Requires clear articulation of a goal.
3. Follows a specific plan or procedure.
4. Often divides main problem into sub-problems.
5. Guided by specific problem, question, or hypothesis.
6. Accepts certain critical assumptions.
7. Requires collection and interpretation of data.
8. Cyclical (helical) in nature.

Points to remember

- Research cannot be taught or improvised.
- It does not follow an on-off model.
- Continuous nourishment is essential.
- There is no ‘one size fits’ model.
- Research dictates its own pace and direction. And should not be imposed upon.

Essentials of Research

- # Identifying the topic
- # Defining problem.
- # Solution.
- # Presenting
- # writing.
- # validation.

Research Process

Step 1: Identify and develop your topic

Step 2 : Do a preliminary search for information

Step 3: Locate materials

Step 4: Evaluate your sources

Step 5: Make notes

Step 6: Write your paper

Step 7: Cite your sources properly

How to read Papers?

- **Researchers must read a lot of papers**

Reasons:

-To cultivate knowledge in the area.

- Learn about recent advances
- Literature review
- All papers do not require the same level of attention.
- Careful selection of papers saves a lot of time.

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Method-1

- **Quick read:**
- Helps to decide whether you need to read this paper any further.
- Reading with great care:

-Helps in grasping the content.

-Helps in summarizing the main crux of the paper

Detailed Study:

Fully understand the paper

Helps in identifying ideas for further work

Method-III

- At a Glance:

- Read the title abstract and introduction.
- Peruse through the sessions and sub session headings.
- Read the conclusion
- Glance over the references

Try to answer the following…

- Category
- Context
- Correctness
- Contribution
- clarity

Method -3

- Read the whole paper, with non-uniform emphasis
- Identify the area of interest and relevance to the scope of your topic.
- Think and questions
- Good to scramble important points,
- Identify papers from the reference list and make your reading lists.
- Learn good presentations
- Learn good presentation and witting skills

Some Sources:

- ResearchGate (http://www.researchgate.net/)
- Academia.edu (http://www.academia.edu/)
- Google Scholar (http://scholar.google.co.in/)
- Shodhganga (http://shodhganga.inflibnet.ac.in/)