

# Research Design

By

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# Need for Research

- ▶ History of Research
- ▶ Paradigm Shift by Popper and Kuhn
- ▶ Knowledge Contribution
- ▶ Sources of Knowledge
- ▶ Rationalism
- ▶ Idealism
- ▶ Empiricism

# Research Strategy

- ▶ Strategy - Aim to achieve your goal
- ▶ Use of Research Onion
- ▶ Three factors
- ▶ Research Nature
- ▶ Research Approach
- ▶ Research Design

# Research Nature

- ▶ Concept is related to Nature of Problem
- ▶ The entire framework or the design is based on research problem
- ▶ E.g. Tsunami - Effect--- People--- Already happened- Impact Analysis
- ▶ Drug Testing--- New---Effect Specific age group --- Experimental design

# How to determine nature

- ▶ To determine research we need to Address basic principles of Research Philosophy
- ▶ Ontology
- ▶ Epistemology
- ▶ Methodology
- ▶ Techniques/ Method

# Ontology

- ▶ Ontology determines how you close to you real world.
- ▶ How researcher view the world
- ▶ Any assumption he/she makes
- ▶ There are four principles of ontology
- ▶ Realism
- ▶ Internal Realism
- ▶ Relativism
- ▶ Nominalism

# Explanation

<b>Realism</b>	<b>You have to be real with it</b> <b>Single truth</b>
Internal realism	Possibility to examine truth but it is obscured
Relativism	Laws are fit in to problem There are many truth
Nominalism	Reality created by people There is no truth

# Epistemology

- ▶ How you choose to investigate the real world
- ▶ There are two approaches
- ▶ Positivism - Objective Method
- ▶ Social Constructivism - Subjective method
- ▶ Reality is constructed on the basis of belief opinion idea



# Methodology

- ▶ Quantitative
- ▶ Qualitative
- ▶ Data Collection Techniques
- ▶ Sample size
- ▶ Population
- ▶ Techniques and Methods

# Methods

- ▶ We know all the methods and techniques.
- ▶ One has to be very clear about the tools which are used and analysis techniques which are used is different.
- ▶ To sum up - Ontology try to relate with outside world
- ▶ Epistemology relate with the knowledge while methodology and methods relates to investigation and ensuring technique

# Choosing Research Approach

- ▶ Research approach is influenced by many - Supervisor - Organisation - Belief
- ▶ Unit of Analysis - Country Specific/ Company specific/Group Specific/ Individual Specific
- ▶ Which is the area Broad/Narrow
- ▶ Are you relying on Universal theory or local theory
- ▶ It is theory first or data first or verifying or falsifying theory ( Existing theory is wrong or right)

# Choosing research approach

- ▶ Deductive
- ▶ Inductive
- ▶ Abductive
- ▶ Truth of Discipline
- ▶ Discipline of Truth

# Deductive Approach

- ▶ Theory to Data
- ▶ Well Known theory is applied and the data will approve and not approve
- ▶ Quantitative data analysis will be used
- ▶ General to Specific
- ▶ Highly used in our field of research
- ▶ Used in MBA projects and PhD dissertation

# Inductive Approach

- ▶ Data to Theory
- ▶ More difficult to manage
- ▶ Truly inductive research is very rare
- ▶ Generally you don't have any reference
- ▶ You start with some theory in the beginning than go for data collection and then develop a new theory
- ▶ Qualitative research design is better for you
- ▶ Specific to General

# Abductive Approach

- ▶ This is also data to theory
- ▶ Enough data are required to formulate the theory
- ▶ Medical Science
- ▶ Policeman investigate the crime and have conclusion

# Research Design

- ▶ Before Discussing research design you need to know two types of Research methods
- ▶ Basic Research
- ▶ Applied Research
- ▶ Basic Research is also known as Pure / Fundamental Research. It is about creating new knowledge - New Theory or Advancement of existing theory
- ▶ Here One has to answer about what why When and How - Expert can do it
- ▶ On the other side Applied research addresses specific problem



# Research design

- ▶ It is plan structure and strategy of an inquiry so as to acquire answer research questions like
  1. What is design
  2. What type of data are used
  3. What is scaling technique
  4. Size of sample
  5. Techniques of analysis etc

Here always remember two things your research questions should embodied by hypothesis and control variance

# Iterative Process

- ▶ Research is an iterative process because once you start things you need to revisit the things therefore three things are very important
- ▶ Backdrop information
- ▶ Developing hypothesis
- ▶ Testing the hypothesis
- ▶ When you are doing proper grouping of data extreme data or outlier data should be removed or cleared

# Types of Research Design

- ▶ Causal Research design
- ▶ Descriptive design
- ▶ Exploratory design

# Causal Research Design

- ▶ Experimental design because it happens in the field and laboratory
- ▶ It is based on cause
- ▶ Relationship between variables
- ▶ Here there are three types of variables
- ▶ Independent variable - researcher has control over the variable
- ▶ Dependent variable - no direct control
- ▶ Extraneous variable - it is between the dependent and independent variable
- ▶ Example of Regression

# Exploratory Research Design

- ▶ Outset of the research project ( Aims to explore research question and doesn't intend to offer final and conclusive solution to existing problems)
- ▶ More creative and flexible as done for the first time.
- ▶ Generally when you are unaware about the problem or does not have any idea about the problem or in existing what is not covered is also part of the problem.
- ▶ Purpose is diagnosing -(what is the situation)
- ▶ Screening - what alternatives are available
- ▶ Discovering new ideas
- ▶ You can use literature search- in-depth interview-focus group- case analysis etc

# Descriptive Research Design

- ▶ It talks about what when why How and when
- ▶ Cross Sectional technique
- ▶ Longitudinal technique are used in this
- ▶ The cross sectional technique is one time -
- ▶ Kids who wear glasses and one who does not
- ▶ Longitudinal technique is over period of time - sequential study
- ▶ Two panels are used continuous panel (same questions )and discontinuous panel (change of questions)

Thank You

▶ **Lets do some Cases**