BUSINESS RESEARCH SKILLS

Presentation Outline

- Course Objectives
- Overview and Planning for Research
  - Basics of Research
  - The Research Process
  - Steps for conducting Research
  - Identification and Formulation of Research Problem
  - Research Objectives and Research Questions
  - Hypothesis Development

COURSE OBJECTIVES

This course unit is offered so that by the end of the semester, the students are;

- **Exposed to the process of identifying and formulating a research problem**
- **Introduced to research design techniques, research instruments and techniques to come up with a good questionnaire**
- **Engaged in assignments to develop and write a research proposal**
- **Exposed to data collection and analysis techniques**
- **Trained in the preparation and writing of a good research report**
- **Involved in the practical training of the research skills**
- **Trained in the interpretation of a case study in context of research methodology**

Overview and Planning for Research

What is Research?

The systematic process of collecting and analysing information(data) in order to increase our understanding of a phenomenon we are concerned about or are interested in.

Business Research is about a systematic and objective process of gathering, recording and analysing data to aid making business decisions

- **Research is both a science and an art at the same time. It's an art because it base on the general nature of events, human experience, and behavior.**
- **It's a science because it applies systematic techniques or principles that involve, among others, collection, analysis, and the presentation of data.**

Importance of Research

- Helps decision makers make informed decisions.
- It contributes to the existing knowledge by adding more information about the environment, problems, success, etc.
- It comes in with new discoveries.
- It is used as a basis of learning by looking at the past, current, and the future.
- It helps in identification and reduction of threats and provide a way of turning them into opportunities.

Types of research

- **Descriptive Vs Analytical**
- **A descriptive research is one that includes**
  - **surveys and *fact finding inquiries* of different kinds**
  - ***used to describe the state of affair as it exists*.**
  - **Methods commonly used for these include, survey, comparative methods, and correlational methods.**
  - **It is mainly used to explain behavior.**

- **Analytical research**
  - **Done from already existing facts like literature and publications,**
  - **Making critical evaluation of materials**
  - **Explains why and how something happened**
  - **Assesses causal relationship among variables.**
  - **Identifies reasons why some things are happening the way they are.**

Types of research (Cont'd)

- **Applied Vs Fundamental**

Applied research is also known as Action research,

- **Aims at finding a solution for a particular or specific problem facing the society or an individual**
- **Areas can be political, economical, or social and market evaluation research.**

Fundamental also known as basic or pure research.

- **Concerned with the generalization and formulation of a policy,**
- **Information that only adds to the existing knowledge.**

- **Qualitative Vs Quantitative**

Quantitative Research

- **Based on measuring of quantities or amounts.**
- **Applicable to phenomena that can be quantified.**
- **Uses numerical data and statistical tests.**

Types of research (Cont'd)

- **Qualitative research**
  - **More subjective, applicable to phenomena that relates or involve quality or kind.**
  - **Uses in-depth interview, word association tests, sentence completion tests, story completion tests, and other similar techniques.**
- **<u>Conceptual Vs Empirical</u>**
- **Conceptual research**
  - **Related to some abstract ideas or theories.**
  - **Mainly used by philosophers and thinkers to develop new concepts to interpret the existing ones.**

- **Empirical research**
  - **Relies on experience or observations alone with no regards for systems and theories.**
  - **Based on first hand empirical information.**

Types of research (Cont'd)

- **Other types of research.**
  - **These may be variations in one or more of the above stated approaches based on either;**
  - **Purpose – like explanatory, descriptive, analytical, or predictive.**
  - **Time required to accomplish the research. I.e. one time, cross sectional research, and longitudinal research.**

Research ethics

- **Honesty: Strive for honesty in all scientific communications.**
- **Objectivity: Strive to avoid bias in experimental design, data analysis, data interpretation,**
- **Integrity: Keep your promises and agreements; act with sincerity;**
- **Carefulness: Avoid careless errors and negligence;**
- **Openness: Be open to criticism and new ideas.**

RESEARCH ETHICS (Cont'd)

- **Respect for Intellectual Property: Honor intellectual property. Do not use unpublished data, methods, or results without permission. Never plagiarize.**
- **Confidentiality: Protect confidential communications,**
- **Responsible Publication: Publish in order to advance research and scholarship,**
- **Responsible Mentoring: Help to educate, mentor, and advise students.**
- **Respect for colleagues: Respect your colleagues and treat them fairly.**
- **Social Responsibility: Strive to promote social good,**
- **Non-Discrimination: Avoid discrimination against colleagues or students on the basis of issues that are not related to their scientific competence and integrity.**
- **Competence: Maintain and improve your own professional competence and expertise through lifelong education and learning;**
- **Legality: Know and obey relevant laws and institutional and governmental policies.**
- **Animal Care: Show proper respect and care for animals when using them in research.**

Qualities of a good Researcher

- **Education and competence: One must have attained some degree of education.**
- **Inter personal skills: This is a people focused area,**
- **Interest in people and their behavior: A good researcher should be one who analyses people, fascinated by choice of others. Be tolerant to other people's behaviors and have interest in them.**
- **Analytical ability: One should be able to analyze issues, understand and interpret the likely outcome,**
- **Numeracy: Have the knowledge to use statistical packages and software, like the SPSS.**

Qualities of a good researcher (Cont'd)

- **Good organizational skills: The ability to meet deadlines. Be organized, fast paced, and make speedy deliveries of results.**
- **Problem solving skills: Get your messages across clearly and listen carefully to make clear assessment of the situation and devise solutions. Listen to others.**
- **Ability to work as a team: There is always many people on a research team, and this calls for ones commitment to team playing.**

Scientific Method

- This is the process of objectively establishing facts through observation, testing and experimentation.
- It has an important trait of ability to be repeated hence providing unbiased answers to questions and establishment of theories about the world we live in.

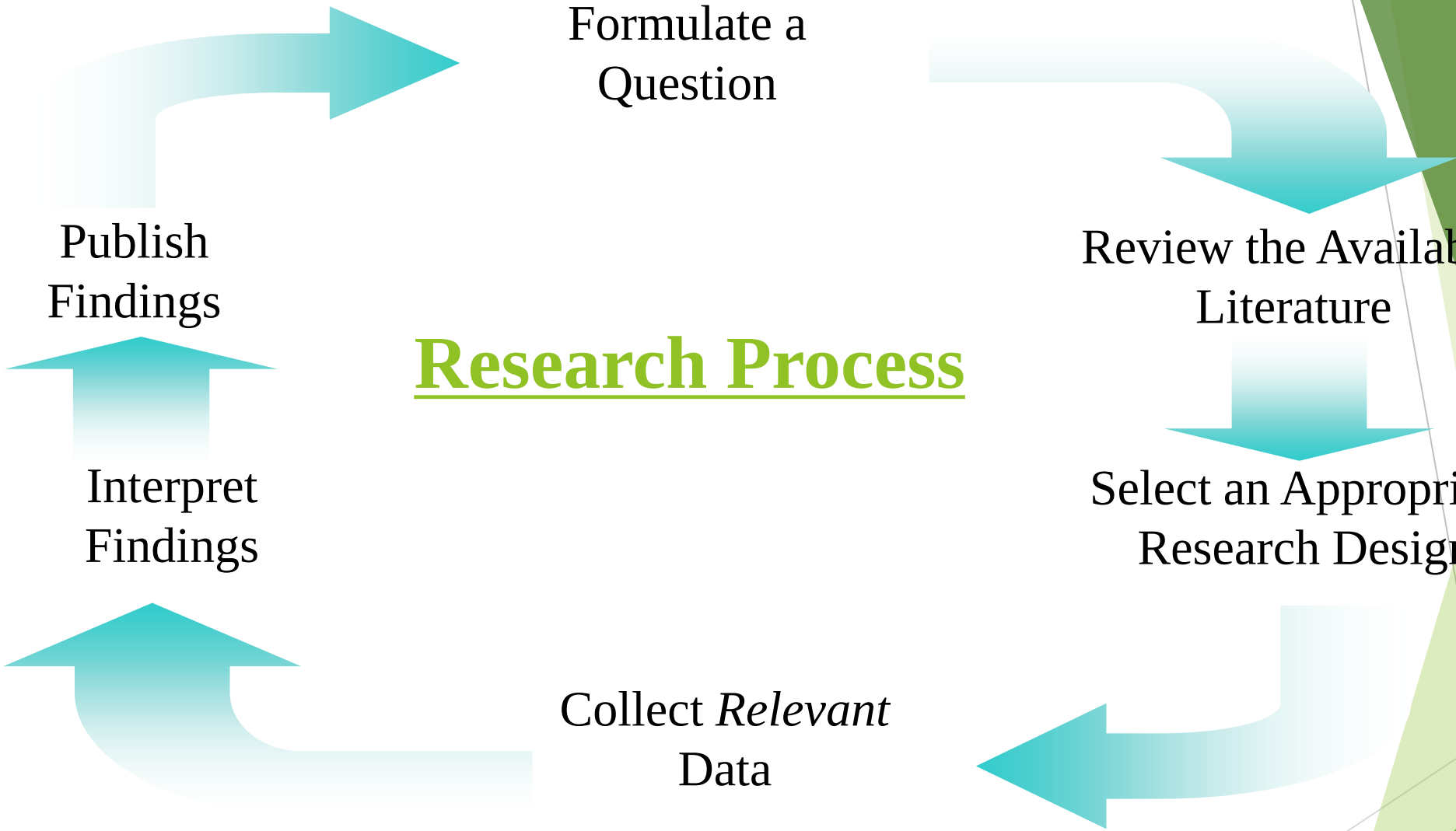
Scientific Method (cont'd)

- Assessment of relevant existing knowledge
- Formulation of concepts and propositions
- Statement of hypotheses
- Design research to test the hypotheses
- Acquisition of meaningful empirical data
- Analysis and evaluation of data
- Provide explanation and state new problems raised by the research

GENERAL STEPS FOR FORMAL SCIENTIFIC RESEARCH

- Realize a problem; from the environment, conversations, reading, or other sources.
- Formulate a topic; in line with the problem.
- State the problem
- Formulate the hypothesis for your study;
- Lay down all the conceptual definitions;
- Gather the required information;
- Analyze the data collected;
- Test and or revise the hypothesis;
- Make conclusions- inferences- or iterations basing on the analysis made.

Research Process



Background of the problem

- Identify evidence of the problem,
- Indicate the magnitude of the problem,
- Highlight the potential study variables,
- State the likely impact of the problem if left to continue.
- This covers a general context of the problem.
  - General set up of an organization being studied,
  - Examples (indicators) showing existence of the problems
  - The end showing how the likely cause could be linked to the problem.

How do we identify the problem?

- Through observation. In the field or those practical problems we always experience.
- By reading extensively - literature review.
- Interactions with business practitioners, employees, and customers.
- Through personal discussions or social conversations.
- Through previous research,
- From existing Theories,
- Consultations with experts.

Research Problem

- First step is selecting and properly defining a research problem
  - Experience from practical problems in the field, from extended reading (literature review),
  - Thinking up the idea.
  - Identifying the unknown or the information gap in the available knowledge.

RESEARCHABLE PROBLEM

- It must be supported by Literature – a result of extensive literature review
- It must be significant – Must indicate specific problems in theory or practice,
- It must be timely – Should about current challenges for it to be relevant,
- It must be original – Not a repeat of what is already documented. Should focus on providing new solutions or new knowledge.

How to: Write a Problem Statement

- A problem statement is usually one to three sentences to explain the problem your process improvement project will address.
- It will identify the negative points of the current situation and explain why this matters,
- In general, a problem statement will then outline the Ideal situation,
- Then it states the concepts that need to be investigated with a view to establishing their relationships to the phenomenon of interest,
- It also serves as a great communication tool, helping to get buy in support from others.

Problem Statement components

- **Component one:** Section clearly introduces the problem at hand.
- **Component two:** Section states the evidence which justify existence of a problem - Empirical evidence is preferable.
- **Component three:** Concluding session showing one of two things;
  - (a) what may happen if the current problem is not attended to OR
  - (b) possible explanations of what is happening (as a problem), setting a stage for what needs to be investigated.
  - The former is common in qualitative research whereas quantitative research can consider any of the two.

Example of Statement of the problem

Grain company Ltd has been having problems of employee performance. despite recent increase in their salaries. Increase in Salaries should normally lead to improvement of performance however, since most staff are recruited through personal contacts, it is likely that their competencies and commitment contribute to the low employee performance.

A member of staff is due to go on annual leave in two weeks time but there is no visibility or way of easily sharing information about his work or cover the work during staff absence. Members of staff go on annual leave which is planned for, however, absence of leave planning and handover procedures may affect team performance while staff are on leave.

Purpose of the Study

- **This is the main or major goal of the research.**
- **It restates the topic in general terms.**
- **Clearly identifying the concepts to be focused on, i.e. the independent and dependent variables.**
- ***Some neutral words commonly used.*** ***Biased subjective words that should not be used***

- ***To determine*** ***To show***
- ***To find out*** ***To prove***
- ***To investigate*** ***To confirm***
- ***To examine*** ***To verify***
- ***To establish*** ***To check***
- ***To explore*** ***To demonstrate***
- ***To identify***

Example of Purpose of study

- It is a statement linking all the variables that are going to be studied based on the intentions or the anticipated outputs.
- The study is to investigate whether staff competencies and commitment at Grain company Ltd contribute to the employee performance. (Can be stated in many other ways)

Research Objectives

- These are the aspects that clearly guide the whole research process.
- These help the researcher to keep focused on specific aspects of the phenomena under study to be brought out at the end.
- Objectives must be SMART (Specific Measurable Attainable Realistic & Time bound)
- These should be at least three and not more than six.
- One objective focuses on the independent variable.
- Another on the dependent variable;
- And at least one the relationship between the two variables

Examples of Objectives

- To analyze the levels of staff competencies at Grain company Ltd
- To analyze the levels of staff commitment at Grain company Ltd
- To investigate the level of employee performance at Grain company Ltd
- To investigate the relationship between staff competencies, Employee Commitment and employee performance at Grain company Ltd (Can be given in other ways)
- Objectives are stated using action verbs like; to determine, to compare, to verify, to calculate, to describe, and to investigate, to analyze,

Research questions

- The research questions are derived from the study objectives, and are of three types.
- i. Descriptive questions- describe the state of the current problem.
- ii. Relationship questions- seek to establish how two or more variables relate
- iii. Difference questions- ask whether some variables differ in characteristics.

Examples of Research Questions

- What are the competencies of staff at Grain company Ltd
- What are the levels of Commitment of staff at Grain company Ltd
- What is the level of performance of Grain company Ltd employees
- How are staff competencies and Level of Commitment related to employee performance OR In which way does staff competencies and staff commitment contribute to employee performance

From the above example, one can recognize that while research is a science, it requires a lot of artistic skills to write research reports.

Concept of Variables

- A variable is a characteristic, trait, or attribute of a person or thing that can be classified or measured
  - Price
  - Gender
  - Heart rate
  - Hair color
- Variable - the condition or characteristic of interest which, in a given study, may have more than one value or quality

Study variables

- Variables can be defined as any aspect of a theory that can vary or change as part of the interaction within the theory: Independent, Dependent, Mediating and Intervening
- Independent variable is often thought of as our input variable. It is independent of everything that occurs during the experiment because once it is chosen it does not change.
- The dependent variable or outcome variable is dependent on our independent variable or what we start with.
- An intervening variable and a mediating variable is a hypothetical variable used to explain causal links between other variables. Not all mediating variables may be observed in an experiment

Hypothesis Development

- **Research Hypothesis**
  - **"A hypothesis is a logical supposition, a reasonable guess, an educated conjecture. It provides a tentative explanation for a phenomenon under investigation**
  - **A hypothesis is a tentative statement that proposes a possible explanation to some phenomenon or event.**
  - **A hypothesis is a testable statement which may include a prediction.**
  - **A hypothesis should not be confused with a theory. Theories are general explanations based on a large amount of data.**

Hypothesis Development (Cont'D)

- **Research questions can be turned into hypotheses**
- **The data collected can either support or not support the hypothesis.**
- **A hypothesis is never proved but supported**
- **A null hypothesis(Ho) is a hypothesis that says there is no statistically significant difference between the two variables. The null hypothesis attempts to show that no difference exists between variables. -*If one plant is fed club soda for one month and another plant is fed plain water, there will be no difference in growth between the two plants.***

Hypothesis Development (Cont'd)

- **An alternative hypothesis(H1) is one that states there is a statistically significant difference between two variables.** ***If one plant is fed club soda for one month and another plant is fed plain water there will be a difference in growth between the two plants..***
- **A non-directional hypothesis predicts a difference but not specific on the direction-QM performance is influenced by gender.**
- **A directional hypothesis is specific on the prediction and direction Males perform better than females in QM.**

Example of a Hypothesis

- An example would be "Children who are exposed to regular singing of the alphabet will show greater recognition of letters than children who are exposed to regular pronouncing of the alphabet"
- An example is that when a bulb is switched on and there is no light, person can make a number of hypotheses
  - The light not coming on is related to a bulb having been blown,
  - The light not coming on is related to load shedding
  - The light not coming on is related to a faulty connection etc
  - The study then goes ahead to investigate each of the assumptions

Scope of the Study

- **Geographical scope (Mandatory):** This highlights the specific region, country where the research study will take place.
- **Contextual scope (Mandatory):** This means the area of study is concerned. The context of a research refers to the broader social, cultural and environmental aspects in which the research is taking place
- **Time scope (Relevant though not mandatory):** This indicates the period during which the research will be conducted.
- **Demographic scope:** This reflects the demographic characteristics of the respondents,

Research Significance or Justification

- It refers to the significance of that particular research work. It highlights who is to benefit, how he/she can benefit and what she/he will benefit.

Limitations and Delimitations

- **Limitations are potential weaknesses of the study in terms of applicability**
  - **Examples include**
    - **sampling problems (representativeness of subjects)**
    - **uncontrolled factors and extraneous variables**
    - **faulty research design and techniques**
    - **reliability and validity of measuring instruments**

Limitations and Delimitations(Cont'd)

- **Possible shortcomings of the study . . . usually cannot be controlled by the researcher**
- **May be a result of assumptions not being met**
- **No study is perfect; the researcher recognizes the weaknesses**

Limitations and Delimitations(Cont'd)

- **Delimitations refer to intentional boundaries or restrictions researchers impose on the study**
  - **Geographical delimitation- Study on a specific regions**
  - **Population- focus on specific population or demographic characteristics**

Assumptions

- Assumptions are basic, fundamental conditions that must exist in order for the research to proceed
- Basic premises required in the study... the researcher does everything possible to increase the credibility of the assumptions, but does not have absolute control
- Assumptions could be made about (1) the motivation of the subjects, (2) whether subjects responded truthfully, (3) the validity of the measuring instrument, and (4) whether subjects followed directions correctly

Research Proposal

- A document that Outlines the Research Study.
  - Objectives
  - Methodology
  - Expected Outcomes
  - Justifications

General Structure of a Research Proposal

- Introduction
  - Background
  - Evidence of the problem
  - Research Problem
- Literature Review
  - Overview of extant relevant research findings and the gaps in the current research
  - Theoretical or conceptual framework underpinning the research study

General Structure of a Research Proposal(Cont'd)

- Methodology
  - Research Design
  - Sampling strategy
  - Data collection and analysis
- Expected Outcomes
  - Research contribution and implications to policy and praxis
  - Future Research that can bring further knowledge
- References
  - Sources cited and reference in relevant format
- Timelines and Budget

Questions or Comments

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