Research Proposal Development

Dr. Inayat Ullah, Assistant Professor National University of Sciences & Technology (NUST), Islamabad, Pakistan

Email: <u>inayat@s3h.nust.edu.pk</u> GitHub: <u>www.inayat.pro</u>

Introduction

What represents the most challenging aspect for me to embark on a research project? How can one pose a meaningful research question? What significance does a particular research question carry? How can we develop a testable hypothesis? How does the proposed research contribute to existing knowledge in the field? Which research design is considered the most appropriate for a particular area of inquiry? Which type of data can be used to answer a research question? What statistical or analytical methods will be employed to analyze the data? What are the anticipated outcomes of the research? What are the estimated costs associated with the research? Is the research technically and logistically feasible? Are there any potential challenges, and how will they be addressed? How will the results be disseminated to the academic community and beyond?

Researchers often address the above questions by developing a well-crafted research proposal which is key to the success of the research project. In this course, we provide a hands-on training on how to develop a promising research proposal that fulfills the key requirements as per the best practices. The first part of the course covers the foundations of research and associated methods while the remainder of the course developing a research proposal by practically going through all steps. We will cover both the quantitative and qualitative aspects of the research proposals. While the methods and techniques of research are worth studying in their own right, another goal of this course is to provide students with the necessary skills to critically read, interpret, and replicate the research proposals of many business and social science projects.

Course Objectives

- Develop an understanding of the structure and functions of an effective research proposal for a variety of purposes such as Funded Research Projects, Scholarship, Admission at higher levels, Grants and other opportunities based on research.
- Formulate specific research question(s) of interest and to test their validity from a researcher viewpoint.
- Identification of data needed to answer specific types of research questions.
- Develop an understanding of the methods employed to test variety of research questions.
- Discuss the principles of methodological rigor (validity, reliability, credibility, trustworthiness) with respect to the research proposal.
- Effectively communicate the research proposal in written and audiovisual forms.
- Exploring opportunities for landing your proposal for potential funding or winning awards.

Course Pre-requisites

The most important prerequisite is the willingness to work hard on possibly less-familiar material. Research proposal and associated methods are like a language, and it will take time and dedication to master its vocabulary, its grammar, and its idioms. This presents a challenge for us as instructors to give you the best intuition and a challenge for you as a student to work hard to internalize that intuition. Although basic introduction to research methods is considered an important prerequisite,

in this course, we adopt an approach that accommodates and enables those students who have no familiarity with research methods.

Course Materials and Recommended Text

Since this course is designed to blend multiple types of research methods, business and economic theories, the material distributed among you will come from a variety of sources. Relevant material for each section and topic will be distributed and students will be asked to read them well before each class. Beside those materials, the following books recommending for general understanding:

Reference Text:

- Research Methods: The essential knowledge base by William M. Trochim et al. 2016.
- Developing Research Proposal by Pam Denicolo and Lucinda Becker 2012

Research Project

To provide you with practical understanding, this course will require students to concurrently develop a comprehensive research proposal throughout the various stages of the development process. The tasks involved encompass key areas of proposal development, such as identifying an area of inquiry, formulating a research question, proposing data, outlining research design and methodological techniques, and justifying the research significance of the project. The quality of the project will be assessed based on parameters given below:

Parameter	Score (100)*
Contextualization of the proposed project	10
Potential of research proposal to address the key area of inquiry	10
Clarity in outlining the aim of the research	05
Clarity of rationale for the study?	05
Articulation of the research questions	10
Methodology, research design and data	40
Feasibility and implementation plan	10
Ethical consideration	05
Budget Breakdown	05

^{*}the weightage of the total research proposal score will be determined as per the university evaluation policy.

Group Work and Collaboration

I encourage students to work together on the key stages of proposal development, but you must write your own research proposal(s) and you must write the names of your collaborators on your assignment. I also strongly suggest that you make a solo effort at all the problems before consulting others.

Contents¹

1. Foundations of Research

- What Is Research?
- Translational Research
- Research Syntheses and Guidelines
- Evidence-Based Practice

2. Conceptualizing Research

- Where Do Research Topics Come From?
- The Literature Review

3. The Language of Research

- Research Vocabulary
- Types of Relationships
- Hypotheses, Variables, Types of Data
- The Unit of Analysis
- Deduction and Induction

4. The Structure of Research

• Components of Research

5. Qualitative Approaches to Research

- Generating New Theories or Hypotheses
- Qualitative Traditions
- Qualitative Data and Methods

6. Sampling

- Sampling Terminology
- External Validity
- Sampling Methods: Nonprobability Sampling & Probability Sampling

7. Quantitative Methods

- Foundations of Measurement
- Reliability and Validity, Scales, Tests, and Indexes

8. Survey Research

- Types of Survey Research (questionnaire, interviews etc.)
- Selecting the Survey Method

9. Experimental Design

10. Quasi-Experimental Designs

11. Inferential Analysis

- General Linear Model
- Experimental & Quasi-Experimental Analysis

12. Ethical Considerations in Research

- Confidentiality and privacy
- Institutional Review Boards (IRBs)
- Honesty in Reporting
- Conflict of Interest

13. Research Communication

- Proposal Presentation
- Poster Presentation

¹ It is not feasible to completely cover these contents during one semester, however, we will do our best to familiarize students with general understanding of these concepts as observed in most research proposals.