Unit 3: Methodology and Research Methods

Required Reading

Dawson, C. (2015) Projects in Computing and Information Systems: A Student's Guide. Harlow: Pearson.

- Chapter 2 Section 2.3 p 26-27.

Summary
Chapter 2, Section 2.3, pages 26-27, explores different ways to classify research, dividing it into three perspectives: field, approach, and nature. The field of research is essentially a labeling system that helps identify groups of researchers working on similar topics, such as artificial intelligence or software engineering. The approach refers to the research methods employed, such as case studies, experiments, or surveys. The nature of research determines its contribution—whether it focuses on theoretical development, evaluates existing theories, or applies knowledge in practical settings. The section further categorizes research types, including descriptive studies, exploratory research, explanatory studies, and causal research. Each type serves different purposes, such as describing existing knowledge, investigating new areas, explaining relationships, or testing how one factor influences another.

Reflection
Reflecting on this section, it becomes clear that understanding how research is classified helps in defining a project's direction and methodology. The distinction between theoretical and applied research is particularly important, as it highlights how some studies focus purely on knowledge expansion while others aim to solve real-world problems. The idea that exploratory research helps refine vague questions into precise inquiries is especially useful, emphasizing that research is an evolving process rather than a rigid framework. This section serves as a valuable reminder that a well-structured research classification not only helps in organizing work but also ensures that a study has clarity, relevance, and impact.

British Research Methodology (BRM). (2018) Research Design.

Summary
The document on research design and research methodology discusses different perspectives on defining research design. Some sources define it as the choice between qualitative and quantitative research methods, while others view it as a structured plan for data collection and analysis. The most comprehensive definition describes research design as a master plan for conducting a research project, guiding the researcher in answering key questions. The document classifies research design into exploratory and conclusive types. Exploratory research is flexible and aims to gain insights without providing definitive answers, while conclusive research, divided into descriptive and causal research, aims to

verify insights and establish cause-and-effect relationships. Descriptive research focuses on outlining specific phenomena, while causal research investigates how one variable influences another. The document provides practical examples of each research type and emphasizes the importance of selecting the appropriate design based on research objectives.

Reflection

Reflecting on this website, it becomes evident that choosing the right research design is crucial for the success of any study. The distinction between exploratory and conclusive research highlights the importance of defining clear objectives before starting a project. The flexibility of exploratory research is useful for generating new ideas, while the structured approach of conclusive research ensures that findings can be applied in decision-making. Understanding the differences between descriptive and causal research also reinforces the need to align research methods with the intended outcomes. This section serves as a reminder that well-planned research design not only enhances credibility but also ensures that findings contribute meaningfully to the broader knowledge base.

University of Liverpool Academic Skills. (n.d.) Introduction to research methods and methodologies.

Summary

In the video "Introduction to Research Methods and Methodologies," Samuelsson, an academic skills tutor at the University of Liverpool, discusses the essential distinctions between research methodologies and methods, emphasizing their application in academic studies and final research projects. He outlines the research process, highlighting the importance of formulating a clear research question and selecting appropriate methodologies based on the subject area. The video contrasts qualitative and quantitative approaches, explaining that qualitative research focuses on exploring phenomena without predefined hypotheses, while quantitative research involves measurable data and often includes hypotheses. Samuelsson also addresses the significance of ethical considerations in research design and offers practical tips for conducting research effectively, including the importance of time management, careful planning, and engaging with advisors throughout the research journey.

Reflection

Reflecting on the content of the video, it becomes clear that understanding the differences between methodologies and methods is crucial for any researcher. The emphasis on formulating a well-defined research question resonates with the idea that a strong foundation is necessary for meaningful inquiry. Additionally, the discussion of qualitative versus quantitative approaches highlights the diverse ways researchers can engage with their subjects, each offering unique insights and challenges. The reminder to consider ethical implications and to seek guidance from advisors reinforces the collaborative nature of research, suggesting that successful projects often stem from a combination of individual effort and external support. Overall, the video serves as a valuable resource for students embarking on their research journeys, providing essential knowledge and practical advice to navigate the complexities of academic research.

QuestionPro. (2021). What is research?

Summary

The website provides a comprehensive overview of the research process. It defines research as the systematic inquiry into a specific concern or problem using scientific methods. The text elaborates on the characteristics of research, emphasizing systematic approaches, logical reasoning, and the importance of accuracy and ethical considerations.

It categorizes research into three primary purposes: exploratory, descriptive, and explanatory, each serving a distinct function in the research landscape. Additionally, the document details qualitative and quantitative methods, offering examples like interviews, surveys, and case studies. Practical tips for conducting accurate research are also included, guiding readers through identifying trends, analyzing data, and drawing conclusions.

Reflection

Reflecting on the website, it effectively demystifies the research process, making it accessible to both novice and experienced researchers. The clear distinction between inductive and deductive methods highlights the importance of methodological rigor in generating valid and reliable results. The emphasis on the ethical dimensions of research and the need for accuracy reinforces the role of integrity in scholarly and practical inquiries. By blending theoretical explanations with practical examples and tips, the document serves as a valuable resource for understanding how research can be used to solve real-world problems and contribute to knowledge in various fields.

Sage. (2021) Sage Research Methods: Methods Map.

Additional Reading

Saunders, M., Lewis, P. & Thornhill, A. (2012) Research Methods for Business Students. 6th ed. Pearson Education Limited.

- Chapter 5 p 172-220.

QuestionPro. (2021) Quantitiative research.

IBM. (n.d.) CRISP-DM Help Overview.

Crewsell, J. (2022) What is Mixed Methods Research? University of Michigan.