Roll No: 13 PAWAN KHATTRI: ASSESSMENT QUESTION'S ANS.

1.a. We need research because it is aim to contribute to better understanding of a subject, expand knowledge, solve problems and provides a basic for decision making.

Types of research:

- Basic Research
  - Pure or fundamental research.
  - Seeks a expand theoretical knowledge.
  - Often curiosity-driven.
- Applied Research.
  - Practical application of knowledge.
  - Solves specific, real-world problems.
  - Addresses immediate concerns.
- Quantitative Research.
  - Involves numerical data and statistical analysis.
  - Aims for objectivity and precision.
  - Common in scientific and experimental studies.
- Qualitative Research.
  - Focuses on non-numerical data (e.g. words, observations).
  - Aims for depth and understanding.
  - Common in social science and humanities.

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2.a.

b. Types of research questions are:

- Descriptive questions.
- Comparative
- Relationship based
- Exploratory
- Qualitative, Quantitative
- Ethnographic
- Preditive
- Feasible.
- Interpretative etc...

To ensure validity and reliability in research, researcher can follow several strategies. Firstly, careful planning and appropriate selection of research methods are crucial. This involves a deep understanding of the research subject, the targeted population, and clear research objectives. Representative sampling techniques and adequate sample sizes should also be considered. Secondly, meticulous and consistent data collection is important. Using valid and reliable measurement instruments & providing adequate training of researchers can help minimize errors and biases in data collection. Furthermore, proper data analysis and the use of relevant statistical methods are highly important. The chosen analysis methods should align with the types of collected data & the research questions being addressed. Lastly, transparent & accurate reporting of research finding is crucial. The research result should be presented clearly and objectively, encompassing all significant aspects of the study. Additionally, prioritizing research reproducibility by providing sufficient detail about the utilized methodology is essential.

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2.a. Project V Research.

Project

- project is a collaborative or individual enterprise that is carefully planned into achieve a particular aim.
- can be seen in variety of contexts, including businesses.
- The main aim of a project is to achiere a tangible or intangible results. for e.g. product, services, competitive advantages etc...

Research

- Research is a careful study conducted using a systematic approach and scientific methods.
- Mainly carried out in academia.
- The main aim of research is to seek or revise facts theories, or principles.

6p's in research.

- Purpose: "1st p"

Define the aim & objectives of the research. clarify what you intend to achiere with your study. E.g. To investigate the impact of Social media on consumer behavior

- 2nd p - plans:

Outline the methodology & approach. Describe how you will conduct your research. E.g. Conducting surveys & interviews to gather data.

- 3rd p- Perspective:

Consider the theoretical framework & viewpoint. Discuss the theoretical foundations guiding your research. E.g. Utilizing the social cognitive theory to analyze behaviour.

- 4th p- Parameters:

Defines scopes and limitation which specifies what is included & excluded in your study. E.g. limiting the study to participants aged 18-35.

- 5th p - proof: Proof presents evidence & findings which helps to share results of your research. E.g. Graphs showing the correlation between social media usage and purchasing decisions.

- 6th p- publication: Share your research with the academic community. Discuss avenues for dissemination & sharing finding. E.g. presenting at conferences & publishing in peer-reviewed journals.

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6. Research proposal on the topic of effects of social media on adolescent mental health. (a quantitative study). with components.

- Introduction:

Social media has becomecome an integral part of the daily lives of adolescents, with many spending several hour each day on social media platforms. However, there is growing concern among parents, educators and mental health professionals about the potential negative effects of social media on adolescent mental health. This study aims to investigate the relationship between social media use and adolescent mental health, with a focus on depression, anxiety & self-esteem.

- Research Questions:

1. What is the relationship between social media use & depression in adolescents?
2. What is the relationship between social media use & anxiety in adolescents?
3. What is the relationship between social media use & selfesteem in adolescents?
4. Are there gender or age differences in the relationship between social media use and adolescent mental health?

- Methodology:

This study will use a quantitative research design, using a survey questionnaires to collect data from a sample of 500 adolescent between the ages of 13-18. The survey questionnaires will includes standardized measures of social media use, depression, anxiety and self-esteem. Participants will be recruited through social media and schools in the local area.

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- Data Analysis:

Descriptive statistics will be used to describe the sample characteristics and the distribution of social media use and mental health outcomes. Correlation analysis will be used to examine the relationship between social media use and mental health outcomes.

- Expected Results:

It is expected that there will be a significant positive correlation between social media use and depression and anxiety and a negative correlation between social media use and self-esteem. It is also expected that there will be gender and age difference in the relationship between social media use and adolescent mental health with females and older adolescents showing a stonger relationship.

- Implication:

Finding of this study will contribute to our understanding of the potential negative effects of social media on adolescent mental health. The result can be used to inform interventions and prevention strategies to promote healthy social media use among adolescents. The study can also serve as a basis for further research on the topic.

3.a. The considerations required for proper literature review are:

- A suitable topic:

Identify a topic on a motivational subject that motivates you can enjoy researching and writing. A narrow topic is better because you can limit the sources to read for you to get a good survey of available material.

- Center of the ideas:

You should organize your literature review around ideas and not just the sources. It requires you to listed your sources then go into more details about each. Read widely but focus more on your topic area. Consider those issues & themes that help in connecting your sources.

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- The target reader:
Your literature review should let your reader anticipate what it has. Craft a simple but powerful statement that reveals your organizing principle to the reader.

- Organization pattern:
Settle for an appealing organization pattern that pleasure readers. You should discuss material by presenting adequate evidence. Refer to several sources when making a point. Back your interpretation about the sources and evidence proving that validity of your discussion.

- Your voice:
All though you use idea from other people, it is important that you present them in your voice to stamp your authority. Start and end paragraphs in your own words when weaving references to sources in your text. You can paraphrase a lot but make sure that info & opinion by authors is accurate.

b. Different citation styles & examples:
There are many different citation styles but they typically use one of three basic approaches:

Parenthetical:
You include identifying details of the source in parentheses in the text usually the author's last name & the publication date, plus a page no. if relevant (author-date). Some time the publication date is omitted (author-page). E.g. AAA (American Anthropological Association) recommends citing your sources using Chicago author-date style. AAA style doesn't have its own separate rules. This style is used in the field of anthropology.

AAA reference entry

Clarke, Kamari M. 2013. "Notes on cultural citizenship in the Black Atlantic world."

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Cultural Anthropology 28, no.3 (August): 964-474
https://www.jstor.org/stable/43898483.

AAA in-text citation
(Clarke 2013)

Numerical Citation:
You include a number in brackets or in superscript, which corresponds to an entry in your numbered reference list.
E.g. ACS (American Chemical Society)
ACS reference entry
1. Hutchinson, G.; Alamillo-Ferrer, C.; Fernandez Pascual, M.; Bures, J. Organocatalytic Enantioselective α-Bromination of Aldehydes with N-Bromosuccinimide. J. Org. Chem. 2022, 87, 7968-7974.

Note Citation:
You include a full citation in a footnote or endnote, which is indicated in the text with a superscript number or symbol.
Example:
Bluebook Footnote Citation
[1] David E. Pozen, Freedom of information Beyond the Freedom of information Act, 165, U.P. A. L.R. E. V. 1097, 1115 (2017).

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4.a. Plagiarism.

The act of presenting someone ele's work or ideas as your own without proper acknowledgment is a serious ethical violation in academic and research context. A researcher's, it is imperative to uphold integrity and ensure originality in our work. This note discusses various aspects of research methodology concerning plagiarism prevention and mitigation.

b.

There are many methods of data generation, depending on the type of data you need to generate and the level of realism required. Some of the most common methods are:

Observational study:

Most common method of data generation. It involves collecting data from the real world by observing people, objects or events. This data can be used to train machine learning models or to analyze trends and patterns.

Experiment:

This is a method of data generation in which you manipulate the environment and observe the results. This can be used to test hypotheses or to understand the casual relationship between variables.

Simulation:

This is a method of data generation in which you create a computer model of a real-world process. This model can be used to generate data that is similar to the data that would be collected from the real world.

Sampling:

This is a method of data generation in which you select a subset of data from a larger population. This can be used to reduce

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the size of the data set or to make the data set more representative of the population.

- Synthetic data generation:
  This is a method of data generation in which you create artificial data that is similar to real data. This can be used to address data scarcity or privacy concerns.

b. Research Problem:
  A statement about an area of concern, a condition to be improved, difficulty to be eliminated, or a troubling question that exists in scholarly literature, in theory, or in practice that points to the need of meaningful understanding and deliberate investigation.

Selecting of a good research problem.

- The researcher should have interest in the problem area.
- The selected problem should be of theoretical importance and fill gaps in literature.
- Data should be accessible.
- Peer recognition of its importance.
- The program should enhance and broaden researchers' knowledge & skill in research.
- The ~~researche~~ proble~~stm~~ should have enough variables.
- It should contribute to the advancement of knowledge.
- It should meet publication standard.
- The solution to the research problem should be practicable.

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5.a. Quantitative data & how do you analyse it?

Quantify the problem by way of generating numerical data or data that can be transformed into useable statistics. It is used to quantify attribute, opinions, behaviours, and other defined variables and generalize results from a large sample.

Quantitative Data Analysis is the process of organizing, analyzing and interpreting qualitative research data - non-numeric conceptual information and user feed back to capture themes & patterns, answer research questions and identify action to improve your product or website.

- Content Analysis:

a qualitative research method that examines and quantifies the presence of certain words, subjects and concepts in text, img, video, or audio msg. The method transforms qualitative data into quantitative data to help you to make reliable conclusion about what customers think of your brand and how you can improve their experience and opinion.

- Thematic analysis:

It helps you to identify, categorize, analyze, and interpret patterns in qualitative study data, can be done with tools like thematic. Focuses on identifying patterns & themes.

- Narrative Analysis:

a method used to interpret research participants stories thinks like testimonials, case studies, focus groups, interviews and other text or visual data with tools. like

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b. Participate are individuals who voluntarily take part in research studies experiments, surveys, or other forms of investigation conducted by researchers. They play a vital role in the advancement of knowledge across various fields, providing data & insights that contribute to scientific understanding.

Responsibilities of an Ethical Researcher:

Ethical researchers have several responsibilities to ensure the well being and rights of participant.

- Conducting research with intergrity:

Researchers must conduct their studies honestly and transparently, avoiding fabrication, falsification or plagiarism of data.

- Obtain informed consent:

Researchers must obtain informed consent from participants info about the study and ensuring the participants have the capacity to consent.

- Protecting participant Confidentiality:

Research must take measures to protect the confidentiality of participants personal info & data including ensuring secure storage & transmission of data.

- Minimizing harm:

Researchers should take step to minimize any potential risks or discomfort to participants, including providing support service & debriefing participants after the study.

- Respecting diversity & cultural sensitivity.
- Adhering to ethical guidlines & regulations.

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6.a. Research Report & its Components?

A detailed and structured document that communicate the findings, methods and outcomes of a research study.

Components of research Report are:

- Introduction
  A detailed and structured documents.
- Title page:
  Title of the research, ~~authors~~ author(s) name, institutional affiliation, date. Identifies the study and provides basic information.
- Abstract:
  Consise summary of research, including objectives, methods, results and Conclusion.
- Table of content:
  - List of major sections & subsections with page numbers.
- Lists of figures and tables:
  Enumerates all figures and tables along with corresponding page numbers.
- Intro:
  Bagro Background, problem statement, objectives and significance of the study.
- Literature review:
  Critical ~~n'ew~~ review of relevant literature, identifying gaps & justifying the study.
- Research design & methodology.
- Findings / results.
- Discussion.
- Conclusion.
- Recommendations.
- References.
- Appendices.

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b. Scientific Research process.

A systematic & empirical investigation into phenomena, conducted to expand knowledge & contribute to the understanding of natural or social world.

Process:

- Problem identification:
  Clearly define the research problem or question to be addressed.
- Literature review:
  Survey existing research to understand what is ~~knowledge~~ known & identify gaps in knowledge.
- Hypothesis formulation:
  Develop a clear and testable hypothesis based on the literature review.
- Research Design:
  Plan the methodology & procedures for the data collection.
- Data collection:
  Gather data according to the research design, using systematic method.
- Data analysis.
  Employ statical or quantitative analysis to interpret the collected data.
- Results interpretation:
  Interpret the findings in the context of the research question.
- Discussion and Conclusion:
  Draw conclusions based on the analysis and discuss the implication of the results.
- Publication:
  Communicate the research process and outcomes through publication in journals or presentations.

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7.a. Informed Consent:

is one of the founding principles of research ethics. If intent is that human participants can enter research freely (voluntarily) with full information about what it means for them to take parts and that they give consent before they enter the research.

Consent ~~should~~ should be obtained before the participant enter the research and there must be no undue influence on participants to consent. The minimum requirements for consent to be informed are that the participant understands what the research is and what they are consenting.

Valid informed consent for research must include 3 major elements disclosure of information, competency of the patient or surrogate to make a decision. US fedral regulations requires a full, detailed explanation of the study and its potential risk.

b. Characteristics of a good research title:

- It should predict the content of the research paper.
- It should be instresting to the reader.
- It should reflect the tone of the writing
- It should contain important keywords that will make it easier to be located during a keyword search.
- Choose a title that is a phrase rather than a complete sentence.
- Select a Strioght forward title over other kinds.
- Use no punctuation at the end of the title.
- The topic or ~~title~~ title has theoretical or practical importance.
- Researchable.
- Intresting and also ethical.

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c. Research hypothesis:

Hypothesis is a tentative statement or explaination that proposes a possible relationship between variables and is subject to testing and verification. Also called scientific hypothesis is a statement about the expected outcome of a study (for e.g. a dissertation or thesis). To constitute a quality hypothesis, the statement needs to have three attributes; Specificity, clarity and ~~reac~~ testability.

An idea or explanation for ~~res~~ something in research that is based on a known facts but has not proven yet. The essential of hypothesis in research are; Specificity & clarity, testability (provability).

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