Research Design in Mass Media Research: An Overview and Guidelines

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Abstract: *From a research point of view, it is essential to comprehend the purpose and objectives of the research design as efficacy of the research study depends on its design. Therefore, it is imperative to have sufficient knowledge regarding the nature, elements and types of research design. The study in hand intends to enhance our understanding about the role that design plays across the whole process of research in the field of mass media, from defining the topic to evaluating and reporting outcomes. In order to provide a summary of the design study, this paper sheds light on each topic included in the research design and explicates how the research design functions to address any study's question. More specifically, the study reviews the significance of research design by enquiring how design answers the research questions and which design is more suitable for the study and how design fits into the research. It provides a succinct explanation of the research methodology and highlights the academic distinction between research methodologies and research methodology. The study methodology's philosophical considerations i.e. ontology, epistemology, and axiology are also briefly described. These meta-theoretical underpinnings, which address ontology (nature of reality), epistemology (nature of knowledge), and axiology (nature of 'general' values) have profound impacts on development and evaluation of theory in social science research*

Introduction

Starting with the query, "What constitutes scientific social science?" The said question remains under discussion even after a lapse of almost two centuries. It crosses the boundaries between many social sciences and examines whether the natural and human sciences are united or at odds with one another (Neuman, 2014). Because there are different disciplines or distinct approaches to science, there is no single science that can answer this question. Theory and methodology are narrower terms than approaches. It addresses issues related to epistemology, theories of knowing, and the goals of research, including comprehension, justification, and normative assessment (Porta & Keating, 2008). Every social science methodology is based on philosophical presumptions and has an opinion on what makes for the greatest kind of study.

Research is frequently considered the cornerstone of scientific progress because it contributes to advancement practically in every area of knowledge (Marczyk & Festinger, 2010). In the words of Kerlinger (1986), "scientific research is a systematic, controlled, empirical and critical investigation of propositions about the presumed relationship about various phenomena" (p. 10). Likewise, Mafora and Lebeloane (2001) stated that

research is a serious investigation that includes gathering, producing, and evaluating data for the sake of addressing a challenge. In particular, researchers try to learn new things about the social world by making thorough observations and employing systematic, controlled, and methodical procedures rather than depending solely on casual observations and informal approach (Shaughnessy & Zechmeister, 1997). Moreover, the philosophical aspects of the social sciences are addressed via research paradigms. So far as research paradigm is concerned, it is basically a collection of core presumptions and ideas about how social world is viewed, which then acts as a framework for thought that directs the researcher's actions (Wahyuni, 2012). Overall, through this systematic process, researchers try to answer the realities, this system includes the step-by-step process, from methodology, research design to research methods, however, terms in question are certainly different from each other. In contrast to research design, which is the strategy utilized to investigate the research issue of interest, methodology refers to the principles, methods, and practices that govern research. The term "method-ology" should be understood to refer to the complete research process, including designing and carrying out the study, coming to conclusions, and publicizing the results. In contrast, "research design" refers to the various methods that research might be carried out to address the posed topic (Marczyk & Festinger, 2010). Whereas research method is just a tool to collect data.

In a nutshell, this paper succinctly covers all the topics included in the research design to give useful insight of the design study by describing every term briefly to provide an understanding of the research design and to tell how the research design works to answer the question of research study. It also included all the essential aspects of the study.

The Context of Design

Having knowledge of the function and goal of research design is crucial as it helps us to understand what research design is and is not. Similarly, it is important to understand how design fits into the entire research process, from posing a topic to ultimately assessing and reporting results (De Vaus, 2001). As we know that research study's primary objective is to respond to its research questions or test its hypotheses. In order to control variance, a researcher must take into account variables that are not directly related to the research questions or hypotheses but have the potential to significantly alter the study's outcomes or cloud the interpretation of its findings (Dulock, 1993). Additionally, the objective of research design is to achieve the study's objectives or offer the more insightful responses to the research questions while keeping the best possible control of variables (Jongbo,2015).

Elements of Research Design

Both in the physical and social sciences, the components of study design apply to all qualitative and quantitative research kinds.

Following are essential components of research design:

1. **Research Study's Questions**: Questions have long been regarded as vital to the process of inquiry, ever since Socrates provided the first example of their application. The idea that knowledge is comprised of responses to questions was initially put out by Aristotle, who distinguished the different types of questions that collectively make up the domain of inquiry (Dillon, 1984). The core of what the researchers intend to know or the research problem they want to answer/address is a research question (Draper, 2004). 'What question am I trying to answer?' is the first thing to consider. Defining a topic is only one aspect of question specification. There are two types of inquiries: explanatory questions that address why questions, and descriptive questions that address what, where, when and how questions, but not why questions (De Vaus, 2001).

2. **Study Propositions**: Design propositions come from empirical work in specific, original research initiatives, although these frequently offer only a single perspective on the typically hazy, ambiguous, and

complicated challenges in organization and management and frequently produce opposing conclusions. Formulating design proposals based on the already published research basis is a supplementary strategy (Denyer & Van, 2008).

3. **Unit of Analysis**: A unit of analysis refers to the entity being analyzed in scientific research. It is crucial to determine the investigation's unit of analysis, such as an employee's job satisfaction and performance, as these are characteristics of the study (Dolma, 2010). The unit of analysis is another term for the level at which data is used to represent a single data point in an analysis. Data is typically at various levels and the study design and analysis assumptions may require different analysis units from the measurement units, making this a difficult task (Silverman & Solmon, 1998).

Description and Explanation

There are two main categories of study questions used by social scientists: What's happening (descriptive research), Why is it happening? (Explanatory research) (De Vaus, 2001). Moreover, the entire focus of descriptive research is always on how and what questions. While explanatory questions always answer why questions.

Descriptive Research

Most social science research is descriptive. The majority of data collection methods are used by descriptive researchers including surveys, fieldwork, content analysis and historical-comparative research. The utilization of experimental research is the least common. Descriptive social research is frequently found in academic journals or used to inform policy decisions (Neuman, 2007).

Explanatory Research

It enables us to identify the specifics of an event that dictate how, when, and why a behaviour takes place. Knowing what led to a particular behaviour can be used to explain it. Research whose main goals are to develop, update, extend, or test hypotheses as well as to explain why

things happen. It frequently entails the manipulation of variables and the application of statistical analysis to ascertain their correlations. Explanatory research focuses on *why* questions . Furthermore, in order to explain a social behavior, we must show that we can control the variables that cause or prevent it (Jackson, 2009). An explanatory case study will make an effort to explain the circumstances around a specific phenomenon identified throughout the study (Jupp, 2006). Explanatory studies typically present an existing theory, test it, or broaden the application of the theory to a new field or population (Neuman,2007). ***Theory building***. In the absence of theory, it is hard to interpret empirical evidence meaningfully and to discern between good and negative outcomes. Furthermore, Empirical inquiry becomes nothing more than "data-dredging" without theory. Moreover, the development of theories helps to distinguish science from common sense (Handfield & Melnyk, 1998). Building theories clarify and explains a certain field of knowledge. The study of problems and areas of practice from a broad viewpoint is required for thorough and rigorous theory formation (Swanson & Chermack, 2013). In the process of "theory building," research starts with observations and employs inductive reasoning to infer a theory from them. In order to create a theory, one must determine whether an observation is a specific instance of a more general factor or how it fits into a pattern or a narrative (De Vaus, 2001). In addition, inductive reasoning is a research methodology that flips the scientific process from one that seeks to confirm preexisting theories and generalizations to one that seeks to establish support for new theories and generalizations (Bucher, 2021).

Theory testing. The testing of theory is one way that empirical articles can contribute to theory. The authors of empirical papers that employ the hypothetico-deductive model develop their hypotheses using theory before testing them with observations described the importance of theory testing (Colquitt & Zapata-Phelan, 2007). Moreover, we might, for instance, want to investigate the hypothesis that parental disagreement, rather than divorce itself, has an

impact on children's well-being. We can forecast how well children will do under various family situations to test this theory. There are four fundamental "conditions" that support the straightforward hypothesis that parental disagreement, rather than divorce, has an impact on a child's well-being. Different predictions regarding the level of children's welfare that we can test would be made by the theory for each condition (De Vaus, 2001).

Types of Research Design

To achieve diverse study goals, researchers employ various designs (jenny,2023).

Following are four types of research design:-

Experimental Design: Investigates if a particular treatment the result. By giving one group a specific therapy while withholding it from another, the researcher evaluates this by comparing the results of both groups on an outcome. Participants are allocated through random assignment to make sure the equalist group (Creswell, 2013). Research in which some research participants are inclined to manipulate the conditions, while others are not, and group responses are compared to see whether the manipulations had an impact (Neuman, 2007). In this way, the experimental design offers the best mechanism for determining whether there is a causal relationship between independent variables and experimental groups of participants (i.e. experimental group) by implementing an intervention on one group while omitting it from another group (i.e. control group). To ascertain a potential intervention impact, the performances of the two groups are then contrasted on an outcome variable (Cahit, 2015). For instance, Swiderski and Amadio (2013) utilized a sample of college students to test the efficiency of well-known television clips as examples of Piagetian concepts in comparison to verbal descriptions of the same exemplars. They came to the conclusion that students exposed to popular television role models would benefit from acquiring the notion of conservation at a later period. The pupils' learning outcomes, however, may also be influenced by a wide range of additional circumstances. Consequently, the researchers

might not have a lot of faith in their ability to accurately describe their findings.

Independent Variable: Independent variable is manipulated by the researcher. This variable is the presumed cause of changes in the dependent variable.

Dependent Variable: The dependent variable is the outcome that the researcher measures. It is affected by the independent variable.

Longitudinal Design: For exploratory, descriptive and explanatory goals, longitudinal studies are useful. Longitudinal studies are generally more effective than cross-sectional research but they are also more difficult and expensive to undertake. Longitudinal research was conducted on the juror rights movement by McCammon and colleagues (2008). Explaining the rate and pattern of development across several decades was its main objective. The authors' design compared data from several time points that were collected (Neuman, 2007).

Types of longitudinal design

1. **Panel Study:** Research that is longitudinal and collects data on the same situations or persons over a long period.

2. **Cohort Study**: Research that follows information on a group of cases or individuals who had a similar experience at one point in time over time.

3. **Trend Studies:** The sample population for trend research is drawn from various groups at various times. They are the most typical sort of research that is used in media studies. Elections are the main time they occur. In other words, trend studies repeatedly ask the same question of several samples (Neumann, 2006; Sarantakos, 2013).

Concepts of Research Designs

To create study designs, it is essential to understand two concepts: internal and external validity. Research designs should ideally have both internal and external validity (De Vaus, 2001).

Internal Validity: Internal validity refers to the degree to which researchers may infer those changes in the dependent variable (i.e. outcome)

are brought about by the manipulation of the independent variable. Internal validity is a phenomenon that allows researchers to deduce that correlations between independent and dependent variables are not arbitrary but rather casual, according to Cook and Campbell (1979), Interval Validity, in other words, is the process of ensuring that the only factor of change in dependent variable is independent variable no intervening variable is involved. It is ideal to conduct experiments with a high level of internal validity, since internal validity is a pre-requisite (Campbell & Stanley, 1966). Furthermore, the degree of the research design's rigour (and consequent level of control) is what internal validity is all about. The level of internal validity is dependent on the amount of control over potential exogenous variables. Taking into account possibly confounding variables reduces the likelihood that a different explanation for treatment effects could exist and increases the certainty that effects are attributable to the independent variable. History, maturation, testing, instrumentation, regression, selection, experimental mortality, and a combination of risks are the eight dangers that have been identified as posing a threat to internal validity (Slack & Draugalis, 2001).

External Validity: The degree to which results from a study can be extrapolated to other contexts is referred to as external validity. If a study's results only hold true for the participants in that specific investigation, even if its internal validity is strong, its value is still constrained (De Vaus, 2001). The generalizability of the treatment effect to different populations, locations, treatment factors, or measurement variables is referred to as external validity. the application of treatment outcomes to and across diverse populations, contexts, and time periods. Inferences concerning whether the discovered causal relationship persists when subjected to changes in subject, environment, time, or treatment variables are said to have external validity. If at all, researchers frequently address questions of external validity only after carefully weighing the study's internal validity. The external validity of those findings is frequently diminished when internal validity threats are

controlled for (Ferguson, 2004).

Relationship between Methodology and Method

The processes and strategies used to gather and examine the data required to address research questions and test hypotheses are referred to as research methodology. It includes the study's design, the selection of techniques and protocols for gathering and analyzing data, as well as the interpretation and display of the results (Creswell, 2013).

"Research methodology is the systematic, theoretical analysis of the methods applied to a field of study. It encompasses the concepts, theories, and principles that guide the entire research process, including the formulation of research questions, data collection, analysis, interpretation, and presentation of findings. Research methodology ensures the validity, reliability, and generalizability of research outcomes" (Kumar,2019).

The theoretical and philosophical underpinnings of research technique are what make up the research process itself. It entails the choice and defence of the study design, the determination of the most suitable techniques for gathering and analyzing data, and the assessment of both pragmatic and ethical limitations. On the other hand, within the selected study methodology, research methods refer to the particular protocols, instruments, and approaches utilized for data collection and analysis. The goals, nature of the phenomenon being studied, and study questions all influence the research methodology. Within the larger context of research techniques, they offer a useful means of gathering and interpreting data (Neuman, 2014). The general reasoning and approach used to carry out research is referred to as research methodology. It entails selecting and implementing a study design, gathering and analyzing data, and interpreting the results. On the other hand, research methods are the particular approaches and processes that are employed within the selected research methodology to collect and examine data. The aims, research questions, and kind of data to be gathered all influence the research

methodologies. Within the broader context of research techniques, they offer useful instruments and procedures for methodically gathering, evaluating, and interpreting data (Babbie, 2016).

The three main fields of meta-theory ontology, epistemology (including associated questions of meta-theory of methodology), and axiology help to lay down the groundwork for various schools of social science thinking. These three factors are used to just define and sketch the map's borders and contours (Miller, 2005).

Ontological Considerations

Ontology related social research topics include things like "What is the nature of reality?" and "What is the nature of the knowable?" (Guba, 1990). Numerous typologies have been put out to characterize different ontological stances, and the topic of these typologies has generated a great deal of discussion in the social science field under the heading "objectivity and subjectivity" (Phillips, 1990). When it comes to the physical world, a lot of academics adopt a realist perspective. One position on the ontological map is designated as a realism position by Burell and Morgan (1979), The actual world, which is composed of concrete, physical, and largely unchangeable structures, is the social realm outside of human cognition. As per the stance of social realists, the social and physical worlds are made up of systems that are external to each individual and exist regardless of their perception.

The fundamental tenet of the nominalist perspective is that names, concepts, and labels serve as the only means of organizing reality in the social environment outside of an individual's capacity for cognition (Burell & Morgan, 1979). Additionally, they contended that a nominalist views the world as consisting solely of human-created names and labels for entities. According to the nominalist perspective, communication skill is not an actual, objective concept; rather it is just a name that a person may apply to a particular experience of themselves or others in social situations.

Epistemological Considerations

Because our views about the nature of the social world inevitably influence our beliefs about how we might learn about the social world, epistemological issues have their roots in ontological debates. "What counts as knowledge of the social world?" "What can we know?" "What is the relationship between the knower and the known?" and "How is knowledge about the social world accumulated?" are examples of common epistemological questions.

An objectivist viewpoint on epistemology has dominated thinking in the physical and social sciences for the majority of the 20th century. Objectivists opine that social world can be comprehended and explained, and that a community of researchers has contributed to the accumulation of these explanations.

Objectivists hold that the best way to learn about the social environment is to look for patterns and causal relationships between its various elements. According to objectivists, the best way to find regularities and causal linkages is to keep the researcher and the subject of the study apart (between the knower and the known).

Lastly, objectivists assert that applying the scientific method can ensure this distinction or at the very least strengthen it (Miller, 2005). On the other hand, subjectivists oppose the scientific method's attempts to strengthen the division between the knower and the known as well as the idea of such a division. Subjectivists encourage "inquiry from the inside" by employing ethnographic techniques which prioritize context and motivation understandings over causal and lawful explanations. A subjective epistemology also rejects the notions of knowledge generalization and knowledge cumulation, favouring local understandings that result from situated study. Knowledge is situated and relativistic.

Axiological Considerations: Values are studied in axiology. According to academics who take this perspective, social science must expunge any trace of values because objectivity will escape through the very same crack if we allow any chink through which values can enter (Phillips, 1992).

The controversy is not about whether values influence scientific practice, but rather about how values are embedded in and shape scientific practice, according to G.S. Howard (1985). Karl Popper (1976) contends that while values cannot (and should not) be removed from the context of discovery, processes that will achieve the elimination of extra scientific values from scientific activity" must be in place within the verification context. Regarding the relationship between values and theory, a second viewpoint contends that values will always influence some aspects of the study project. According to this viewpoint, virtually all scientists hold some value orientation unconsciously because it is so embedded in our modes of thought (Phillips, 1992). In his seminal work Patterns of Discover (1979), N.R. Hanson claims that an observer's theoretical perspective and prior knowledge always influence what they witness. Gould (1981), for instance, looks at how intelligence has been researched across time and discovers that theoretical stances and ideals have had a range of effects on science. According to this second axiological approach, values and theoretical perspectives are glasses that we use to perceive the world, and they cannot be removed at any stage of the academic process.

Beyond the claim that values cannot be removed from the research process, a third perspective on the place of values in scholarship maintains that values should not be kept apart from scholarship. To summarize, Guba (1990a) states that "the choice of a particular value system tends to empower and enfranchise certain persons while disempowering and disenfranchising others if the findings of studies can vary depending on the values chosen." Thus, an inquiry is a political act.

Challenges & Limitations

- **Complexity of Media Effects:** Media effects are frequently mediated by a number of different elements/factors that are indirect.

- **Rapid Changes in Media Landscape**: Research methodologies must constantly adopt new platforms and technology as media landscape is changing rapidly with

the passage of time.

- **Data Access:** Compiling extensive data might be challenging, particularly when using proprietary platforms.

- To generate significant and trustworthy findings, effective research design in mass media research requires meticulous preparation, rigorous methodology and above all ethical consideration.

Conclusion

Aforementioned in view, this study has presented an overview of the research design. From the definition, it is clear that research design provides the framework of the study, choosing when to use what research design depends on the research questions. What are the kinds of questions that may be used for the research design? Research design has a proper process by using different elements. Types of research design play a vital role in the study as we can use the design according to our research need. It has some key concepts which used to measure the validity and reliability of the research designs. Furthermore, the study also explains the types of validity both eternal and external validity, along with its purpose and specific criteria. Furthermore, it has also explained that internal validity is the issue of design and external validity is basically sample issue. It has shed valuable light on all the elements, concepts and types of research design.

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