

Multi Method Qualitative Research Study in Management

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Abstract: This article explores how Multi-Method qualitative research supports in-depth qualitative research, the positive and negative implications of the Multi-Method qualitative process in research and discusses the advantages, challenges, and limitations. Furthermore, this article has used a systemic literature review to show the triangulation of the data to validate and provide credibility by complementing the research results. These article further offers insights to the researchers who plan to conduct a Multi-Method qualitative study despite the critics in this field. For the Literature review, the researcher referred to 25 existing journal articles available digitally in the related area and carefully analysed them using descriptive research to develop this article with available data collected. This study concluded that the multi-method approach is a worthwhile procedure to overcome barriers in Mono-Method qualitative study, which mainly comprises analysing only one area of an issue. Therefore, Multi-Method enhances the validity of qualitative research on a management discipline research work.

Keywords: *Multi-Method Approach, Qualitative Study, Triangulation*

Introduction

The main aim of this article is to explain what a multi-method study is, the key to multi-method design in the qualitative study, and how a multi-method study could be carried out in a qualitative study in the areas of the management field. This study can give a clear picture of multi-method study and an informative explanation of the concept of multi-method study. This research is completely discussed based on existing literature review and previous experience in the multi-method study research. This study has properly adopted Multi method research design in the qualitative study. The key objectives of this study are to understand the types of multi-method research designs, available forms of qualitative multi-method study design and how could this be applied in the field of management.

Defining qualitative research is critical because it is the central focus of this portion but there's a challenge in defining this term clearly since it does not have a theory or paradigm nor a clear set of methods or practices that are mere of its own. This term also involves a huge array of methods and approaches within the various subjects of research. Hence, the writers have defined qualitative research distinctively. By the term 'qualitative research', it is understood that any sort of research that produces findings, which are not received by statistical procedures or any other means of quantification. This method questions the research about a persons' life, lived experiences, behaviours, emotions, and feelings along with organizational functioning, social movements, cultural phenomena, and interactions between nations. This suggests that qualitative research is not statistical and it incorporates multiple realities (Rahman, 2020).

Qualitative research is a term signifying a range of research methods, which share some common elements. Researchers who practice qualitative approach are not inquiring about the laws, which causes problems but inquire about the belief of people, their experience and their attitude. These methods are not similar to quantitative research but more subjective, using statistical analysis and empirical calculations. The view of this phenomenon is holistic. Social context is included in qualitative research using methods such as grounded theory, phenomenology, and ethno nursing. These three approaches are assigned for the current discussion (Brink, 1993).

In qualitative research critical viewpoints allows researchers to conduct skilful analysis, assessment, and reconstructions. These further supports listening to the participant's voice and their experience as realistically as possible. To read and understand the natural environment of the persons, study the individual with direct interaction, the participant's perspective about the social world, narrating stories using the participant's own words. The qualitative approach advocates the fact that it is difficult to recognize the meaning of the social world. This could be evident by looking at different occasions, activities, or attitudes of people from an independent position based on the situation (Aluwihare-Samaranayake, 2012).

A flexible approach can be adopted by the researcher who conducts a qualitative study. On one hand the researcher also actively engages with the participants to study them through their perspective. On the other hand, the quantitative approach advocates trust that the social reality exists as independent facts that are not formed or organised by social interaction or opinion (Ojebode, et al., 2018).

Ojebode et al., (2018) stated that the researcher is like a neutral actor, therefore the researcher should observe the reality of the society without making any disturbance for the natural element. Not only this, the researcher should employ methodical, replicable techniques and standardised research tools to make sure the exact measurement and presentation of the observed fact are presented. To objectively show a generalizable result and as part of the scientific procedure, the researcher should control prevailing variables and use suitable statistical inferences. Based on the characteristics of both research approaches, some researchers have reasoned that both approaches are mismatched, hence those should not be combined in one's study. However, in the modern era, to address the most complex social phenomena, single research may not be adequate (Ojebode, et al., 2018). The most productive relationship between the qualitative – Multi-Method study and quantitative methods, in relation to incorporation, the achievement shared should be immediately highlighted (Collier & Elman, 2018).

In a study conducted on Issues of validity and reliability, where the qualitative research carried out by Noble and Smith, (2015) listed the terminologies used in quantitative research and its application to qualitative approach to assess the reliability of research findings (Noble & Smith, 2015).

Table 1: Term in Quantitative Approach

Term in Quantitative approach	Description	Alternative terminology	Credibility description
Validity	Reflection of data accuracy in the findings.	Truth value	Identifies the existence of multiple realities; Personal experience of the researcher and viewpoints that may have resulted methodologically biased are accurately presented participants' perspectives
Reliability	The consistency of the analytical procedures, including accounting for private and research method biases which will have influenced the findings	Consistency	Relates to the 'trustworthiness' by the methods which are undertaken and maintaining the researcher's decisions are clear and transparent. Eventually, an independent researcher should be ready to reach similar or equivalent findings.
Generalisability	The transferability and applicability of the findings to other settings in other contexts	Neutrality	When truth value, consistency, and applicability are addressed it will be achieved. Focuses on acknowledging the complexity of extended engagement with participants, the methods undertaken, and findings are fundamentally linked to the researchers' logical position, experiences, and standpoints. These should be accounted for and differentiated from participants' interpretations
		Applicability	Consideration is given to whether findings can be applied to other contexts, settings or groups

Source: Authors work based on Noble & Smith (2015)

Explanations in enhancing the reliability of qualitative research strategically was given by Noble and Smith (2015) as below:

Truth Value:

Reflexivity and reflection on own perspectives: Peer debriefing to help the

researcher to uncover by being unbiased or with no assumptions, for instance, to take a more holistic approach to the initial qualitative interviews with succeeding participants.

Representativeness of the findings in reference to the phenomena: Readiness to share their experiences through permitted clarification of findings as an ongoing process. Semi-structured audio recorded interviews of the remaining faithful participants' and to revisit the information to see emerging themes. Use of rich and thick verbatim extracts that supports the reader to form judgements about whether the ultimate themes are of faithful participants' explanations. Participants are invited to discuss the research findings and themes.

Consistency/ Neutrality

Achieving Auditability

Transparent and clear description of the research process from initial outline, through the event of the methods and reporting of findings. Additionally, maintaining a search diary documenting challenges and issues assisted in preserving cohesion between the study's aim, design and methods. Evolving theme discussion with research team members in an open process where assumptions might be challenged, and consensus reached.

Applicability

Application of Findings to other

Contexts

Irony of detail of situation facilitates the evaluation of study, conclusions and transferability.

Melnikovas (2018) depicted a research onion diagram which was proposed by Saunders et al. (2016) may be a tool which helps to arrange the research and develop research design following the layers step by step. However, the research onion model was primarily designed for business studies. The analysis of literature on future study's methodology has revealed that future studies may be a specific research field because it deals with phenomena which aren't actualized yet, thus it underpins a specific ontological and epistemological assumption, which cause choice of strategies, techniques and methods different from ones utilized in business studies. The research methodology has its start line with description of the most philosophy, choosing approaches, methods and method that defining time horizons, which altogether take the research logic to the research design, main techniques, procedures of knowledge collection and analysis. (Melnikovas, 2018).

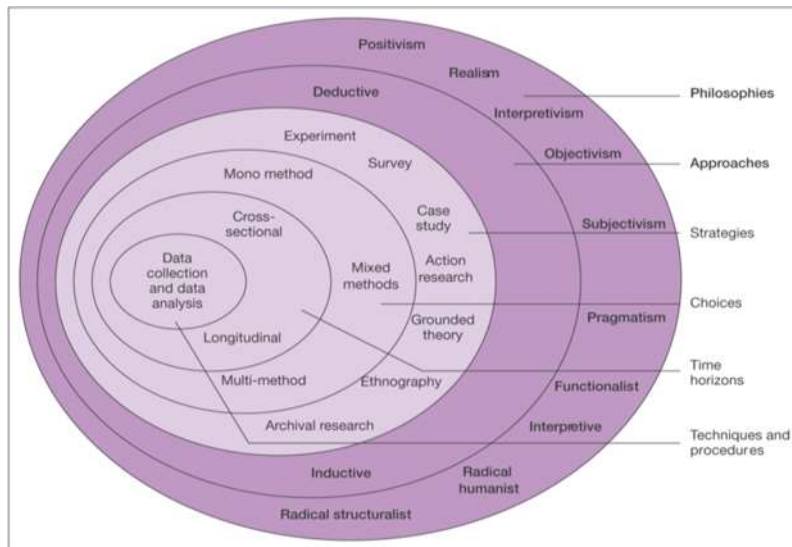


Figure 1: Research Onion

Introduction to Multi-Method

Multi-Method, Multiple Method and Mixed method are found in relevant literatures. These are very often interchangeably used in their designs. Multi-Method is defined as, it is a research where more than one method or worldwide view is used (Esteves & Pastor, 2004). In three different meanings, Multi-Method can be understood, which are consisting of different distinguish elements of qualitative work, qualitative and quantitative interconnection procedures and the interpretative and constructivist methods' relationships. Nevertheless, all the differentiate characterised approaches are all anchored in the thick analysis associated with qualitative work (Collier & Elman, 2018).

Qualitative research methods are varied, and this helps to describe the idea of Multi-Method in three different views, those are, the conventional qualitative traditional research, cantered around increasing the diversity of the technique; interconnection between the growing qualitative and quantitative research tools;

interpretative and constructive approaches (Collier & Elman, 2018). The simple contrast of qualitative and quantitative explicitly can be used to differentiating the research type. The difference can be depicted as the difference between large number of studies utilizing structural equations in the quantitative study and a case study in-depth, which might employ, process tracing within-case, participant observation, or other forms of ethnographic work. A thick analysis is crucial to identify and differentiating the key characteristics, even though the statistical tools have a long seal of quantitative research. These differences are important to understand, which is multi-method.

The involvement of numerous methods, sources and investigators approach adopts a multiple triangulation approach that includes a various data collection way, sources of knowledge and collective investigators with diverse areas of experience. The multi-site and Multi-Method design facilitated the identification and validation of relevant issues. Multi-Method researches are desirable because each method reveals a

special aspect of reality. This concept has since been developed to incorporate triangulation as a metaphor for strength, trustworthiness, and comprehensiveness. Trustworthiness through triangulation enhances the credibility, dependability and 'confirmability' in qualitative studies. Interviews, Observations, Digital diaries, focus groups and stake holder workshops are the mode of data collection in Multi-Method study (Johnson, et al., 2017).

However, there are advantages and limitations in Multi-Method study. Interviews are comparatively easy to organise and coordinate. Observations and explanations in enhancing the reliability of qualitative research strategically was given by Noble and Smith (2015) and the research onion diagram which was proposed by Saunders et al., (2016).

Multi-method, multiple method and mixed method are found in relevant literatures. These are very often used interchangeably in their designs. Multi-Method is defined as, research where more than one method or worldwide view is used. The involvement of multiple methods, sources and investigators approach adopts a multiple triangulation approach to include various methods of data collection, numerous sources of knowledge and several investigators with multiple areas of experience.

Sequential and Simultaneous

Design in Qualitative Study

The conduct of more than two research methods, where each method handled meticulously to complete as one project. The results are triangulated to form a comprehensive finding (Esteves & Pastor, 2004).

Table 2: Characteristics of Multi-Method Designs

Design Type	Combination
Simultaneous	QUAL+qual indicates a qualitatively driven, qualitative simultaneous design. QUAN+quan indicates a quantitatively driven, quantitative simultaneous design. QUAL+quan indicates a qualitatively driven, qualitative and quantitative simultaneous design. QUAN+qual indicates a quantitatively driven, quantitative and qualitative simultaneous design.
Sequential	QUALÆqual indicates a qualitative-driven project followed by a second qualitative project. QUANÆquan indicates a quantitative-driven project followed by a second quantitative project. QUALÆquan indicates a qualitative-driven project followed by a second quantitative project. QUANÆqual indicates a quantitative –driven project followed by a second qualitative project.

Source: (Esteves & Pastor, 2004)

In education, psychology, sociology, nursing and management studies, multi-method study became prominent as it deploys more than one method. However, this type of study is simple, but powerful because it can be related with two or more

qualitative analyses such as a structured focused and an ethnographic study of a single community (Ahmed & Sil, 2012).

Sampling in Qualitative Studies

In qualitative research sampling is decided by the methodology selected and therefore it is not a necessity to make generalizable findings regarding the topic under investigation. This anti-realist approach is predicated on the premise that the paradigm of qualitative research can't be critically appraised within the same way as quantitative research, for which the existing principles and rules for sampling don't apply. For instance, within ethnographic research the study sample comprises the community or culture under investigation, whose members demonstrate the membership of the cultural group being researched. Therefore, this group or the community forms the sampling frame and will be described as a purposive sample. In contrast, a grounded theory methodology demands a concurrent data collection and analysis, so that more individuals who display the characteristics, which warrants a further investigation are often recruited to the study due to emerging of research progresses and preliminary findings. This often is referred to as 'theoretical sampling'. It is merited that some observers have concluded that each and every sample in qualitative research are

often termed as purposive (Higginbottom, 2004).

While the study sample could also be clearly defined at the outset of qualitative research, the technique of sampling within the case, which is, ensuring a lot of different variations of the info during a given case are explored and it must be administered to make sure that the complete range and extent of a phenomena are represented. Recurrent sampling is emblematic of the emergent nature of qualitative research. Three major domains in ethnographic research related to sampling within case: people, time and context (Higginbottom, 2004).

Qualitative studies have within the past often neglected a full description of sampling techniques and procedures, although many theoretical perspectives on this subject exist within the literature to guide the beginning qualitative researcher. Transparency is important if qualitative methodologies are to be developed further and the methodological rigour maintained. While generalisability isn't a goal of qualitative research, consideration must tend commissioned research to the difficulty of empirical generalisability, in order for maximum benefit is often gained for patients and clients (Higginbottom, 2004).

Table 3: Advantage vs. Disadvantage of Qualitative Research

Advantage of Qualitative Research	Disadvantage of Qualitative Research
Qualitative research approach produces the thick (detailed) description of participants' feelings, opinions, and experiences; and interprets the meanings of their actions	Qualitative research approaches sometimes leave out contextual sensitivities and focus more on meanings and experiences.
Qualitative research results provide the relationship of information processing with performance specifically and deeply.	Phenomenological approach, for instance, attempts to uncover, interpret and understand the participants' experience
Qualitative approaches are employed to achieve deeper insights into issues related to designing, administering, and interpreting language assessment.	This sampling was selective and purposive, focused on instructors with high levels of expertise in each setting, rather than aiming to be representative of educators in the particular countries or institutions

Holistically understands the human experience in specific settings.	Policymakers may give low credibility to results from qualitative approach
Interdisciplinary field which encompasses a wider range of epistemological viewpoints, research methods, and interpretive techniques of understanding human experiences.	In many social sciences, quantitative orientations are frequently given more regard. In addition, purely qualitative research may neglect the social and cultural constructions of the variables studied
Interpretivism research approach is regarded as ideographic research, the study of individual cases or events.	Admitted that due to the small sample size the study results do not wish to claim wider generalization to other contexts.
Admits the researchers to discover the participants' inner experience, and to figure out how meanings are shaped through and in culture	Data interpretation and analysis may be more difficult/complex
Participant-observation, unstructured interviews, direct observation, describing records are most commonly used for collecting data	Developing the undeveloped question into a researchable form is harder, and the refining question in qualitative research may be continuous throughout a whole study
During the data collection, the researchers interact with the participants directly such as it happens while data collection through interviews. Consequently, data collection is subjective and detailed.	It seems that the data analysis and developing the research question using the same data, which is previously collected, is likely to be a harder and continuous process of conducting qualitative research.
Qualitative research design (interactive approach) has a flexible structure as the design can be constructed and reconstructed to a greater extent	Analyses of the cases take a considerable amount of time, and one can generalize the results to the larger population in only a very limited way
Thorough and appropriate analyses of an issue can be produced by utilizing qualitative research methods, and therefore the participants have sufficient freedom to determine what is consistent for them and the complex issues can be understood easily	In language testing and assessment research, in order to devise a new policy within a short period of time, the policy makers may demand quantitative research instead of qualitative research.

Source: (Rahman, 2020).

Triangulation in Multi-Method

Triangulation means utilization of two or more data sources, methods, investigators, theoretical perspectives and approaches to analysis within the study of one phenomenon and then validating the congruence among them. The major goal of triangulation is to overcome the mistakes and loopholes made by a single investigation, single theory or single method study. Increase the validity of the study through Multi-Method (Brink, 1993).

One technique is that a researcher has tried to determine their research by combining different methods to match the results, a technique often called 'triangulation'. Different processes for different methods used to construct findings and these are used by valuable contextualising data generated in several ways. For instance, one among many advantages of in-depth interviews is that they permit for dialogue and debate around what an idea means, whereas a questionnaire is usually a de-contextualized choice of tick boxes. In social life we are often presented with both ways of selection. Research also can be

viewed as a social exchange between researchers and research participants, where different methods are used for different purposes. A number of participants these leave the discussion, others don't. Whatever method researchers use, their profile within the context of the research is crucial to the complete data collected. At a more detailed level, validation involves showing how particular methods and aspects of methods or data sources seems appropriate for research questions. Validity of interpretation involves investigating the idea of knowledge analysis and the interpretation which it is based on (Meetoo & Temple, 2003).

Multi-Method qualitative approach that allows cross validation and combination of multiple method in qualitative study can facilitate the survey influences under research setting for important issues (Johnson, et al., 2017). Many qualitative researchers use credibility and try not to use the terms such as validity, reliability, trust-worthiness, truth, value, applicability, consistency and confirmability, when referring to the criteria in evaluating the scientific merit of qualitative research. As stated previously researchers need to agree on several factors that pose risks to the validity and reliability of their findings. They can plan and implement tactics along with strategies to avoid or counter them. One of the key factors affecting validity and reliability is error. Error is inherent in all investigations and is inversely related to validity and reliability. The greater the degree of error the less accurate and truthful are the results. Researchers thus must be especially watchful of erroneous sources when planning and implementing their studies. For convenience's sake the major sources of error can be categorised as follows: (1) the researcher (2) the subjects participating in the project (3) the situation or social context (4) the methods of data collection and analysis (Brink, 1993). Ojebode, et al., (2018) mentioned

that triangulation is a validity procedure that researcher use to merge among different and multiple accumulated data, which also can form themes in the study. These scholars further cited Greene & Caracelli in Turmond, 2001; Bryman, 2008 described that, when the researcher uses more than one method to explore the same occurrence, triangulation is indicated as methodological blending.

Different approaches in qualitative studies, alongside their practitioners, are increasingly viewed as belonging to a well-defined research community, although advocates of one or another approach may strongly prefer it to others and should indeed have serious objections about several others. Relevant alternatives here include the closely related methods of controlled comparison and structured, focused comparison; case study methodologies; within the case analysis various focus on pattern matching and process tracing; studies with a robust qualitative, historical specialisation in a temporal dimension, like research on a path dependence; the utilization of counterfactual analysis; and a spectrum of techniques for data collection, including many other semi-structured and unstructured interviews, participant observation, archival work and therefore the systematic analysis of secondary sources. The relevant set of qualitative tools is now sufficiently diverse, and therefore the choices about evaluating and linking these tools are sufficiently complex, that the thought of Multi-Method can certainly be applied to a quality domain of qualitative work (Collier & Elman, 2018).

The idea that multiple methods could also be deployed simultaneously during a single study, where such a study would be less susceptible for built-in errors, and thus in superior research employing one method has its origins within the behavioural revolution of the 1950s. An important article within the field of

psychology introduced a “multitrait-Multi-Method matrix,” during different methods of observation that are relied upon to counter the method-specific variance and facilitate greater cross-validation. The related notion of methodological “triangulation” gained prominence within the 1960s and 1970s, where they are known in such disciplines as anthropology, sociology, education, and organizational research (Ahmed & Sil, 2012). There are arguments in reliability, where traditional measures are not applicable in all qualitative studies due to the epistemological assumptions of the nature of research methods, hence the need of validity and reliability are looked in an exciting manner (Esteves & Pastor, 2004).

Specification of validity criteria in qualitative research has implications for both the research process and research product. Experience demonstrates that the incompleteness of an overemphasis on processes is also because of the potential for pseudoscience by an overemphasis on the research product. Researchers and consumers of research cannot become seduced by a catchy phrase or meticulous application of a scientific methodology. Attention to both process and merchandise, art and science, contribute to validity and subsequently quality in qualitative research. Quality in research depends on honest and forthright investigations. Checking out alternative explanations and a self-critical attitude is imperative.

Every study has biases and threats to validity. All methods have limitations, and research involves multiple interpretations with ethical components inherent to findings. What becomes most vital is to work out the validity ideals of a specific study (criteria), employ the optimal methodological techniques, and to critically present the research process intimately. Validity cannot be assumed, and presentation of research findings must

invite the chance for critical reflection by consumers. The importance of explicating “how we claim to understand what we all know” is essential because of the claim to what we know. This contemporary synthesis of validity criteria in qualitative research facilitates the decision-making process for investigators and therefore this evaluative process for consumers of research. Further development of validity criteria requires ongoing dialogue (Whitemore et al., 2001).

Many types and names have been used to define the different types of validity. “Internal” and “External” are two major forms of validity that encompass the many types of legitimacy. Internal validity is the term used to refer the research findings that are a true reflection or representation of reality rather than being the effects of extraneous variables. External validity addresses the degree or extent to such representations or reflections of reality that are legitimately applicable across groups. Reliability is concerned with the consistency, stability and repeatability of the informant’s accounts as well as the investigators’ ability to collect and record information accurately. It refers to the ability of a research method to yield consistently the same results over repeated testing phases. In other words, it requires that a researcher using the same or comparable methods obtain the same or comparable result every time he uses the method on the same or comparable subjects. It further requires that the researcher has developed consistent responses or habits in using the method and scoring or rating its results and that factors related to subjects along with testing procedures have been managed to reduce measurement error (Brink, 1993).

Multi-Method Study in Strategic Management Field

As Dzwigol, (2020) the application of Multi-Method study to strategic management field is limited and needs

further focus to expand the possibilities for strategic management. A study conducted in Multichannel service failure and recovery in the O2O era: A qualitative multi-method research in the banking services industry by Reis, Amorim and Melão, (2019), which incorporates not only one method of collecting data, but also one method of analysing data. Data collection involved 50 records of customer complaints, 10 semi-structured interviews, direct observation and internal bank reports. The results suggest that multichannel customers aren't willing to interact with an outsized number of channels to unravel their problems resulting in a high number of interactions. Customers expect a posh recovery not in terms of interactivity but in terms of depth. Recovery solutions, like apologizing and monetary compensations are non-permanent solutions, are inefficient within the future and imply financial losses. Despite the investment that's required, this investigation advocates for permanent solutions. To avoid service failures and sophisticated recovery processes, it's possible that companies are improving their operations management in search of latest strategies that are blurring the boundaries of O2O into a mixture of offline and online channels (Reis, et al., 2019).

Another study conducted in A Multi-Method Examination of the Benefits and Detriments of Intragroup Conflict by Jehn, (1995) examines the structure of 105 work groups and management teams to deal with the question of whether conflict is often beneficial. Multiple methods were used to examine the consequences of conflict on both individual- and group-level variables to supply a more refined model of intragroup conflict. Results show that whether conflict was beneficial and trusted, therefore the structure of the group in terms of task type, task interdependence, and group norms were considered. Relationship and task conflicts were negatively related to individuals' satisfaction, liking of other group members,

and intent to stay within the group. Contrary to expectations, norms encouraging open discussion of conflict weren't always advantageous. The results suggest that while such norms were related to a rise within the number and intensity of relationship conflicts, they didn't increase members' ability to affect the conflicts constructively (Jehn, 1995).

A study on using a Multi-Method approach to develop implementation strategies for a cervical self-sampling program in Kenya, where a Multi-Method qualitative research study was designed, which included three main components: the Participatory Action Research (PAR) methodology, Scenario Based Planning (SBP) method, and Existential Phenomenology (EP) method. Each of those three components made a singular contribution to enabling local decision makers to collectively make informed, practical, culturally sensitive strategic decisions on how best to implement a CSSP in Kenya.

To ensure efficacy, credibility and transferability of study results, a Multi-Method approach to data collection and analysis was applied. Investigating multiple constructs requiring different analysis efforts supported the rationale for applying a Multi-Method approach. For these reasons, data collection and analysis methods, which are aligned with the Participatory Action Research (PAR) methodology, Scenario Based Planning (SBP) method, and Existential Phenomenology (EP) method, were incorporated into this study. According to the qualitative research paradigm of constructivism and PAR, data collection and analysis was a collaborative, participative, reflective and iterative process were used. Repeated rounds of knowledge collection and analysis happened before, during and after four workshop events. The next data collection and analysis of members conducted after each workshop. These outputs were then

brought forward to subsequent workshop for everyone's input and validation. Data was collected through formal interviews, focus groups, workshops, and informal interactions. Types of data collected included: audio tape recordings of interviews, focus groups and workshops, transcriptions of the recordings, and textual descriptions of observations during a personal journal. Applying the principle of triangulation, a series of analytic processes were conducted in support of 4 Workshops. Initially, data analysis focused on conducting content analysis of outputs from SBP 3600 Stakeholder Feedback interview transcripts to spot factors (negative or positive) that would impact implementation of a CSSP. The similarity between factors was then assessed as a part of an affinity exercise to categorize factors into thematic groupings. Following the planning of potential self-sampling scenarios, the phenomenology method of study was applied to spot situational and emotional units of significance for adoption of cervical self-sampling phenomenon. As a final step, a final round of content analysis, aggregating of all study findings, was conducted to spot CSSP strategic directions and supporting implementation strategies. Extensive thematic model development studies can be used as a tool for multi-method application in strategic and project management fields of study through in-depth exploration (Vivek & Nanthagopan, 2020).

Applying a Multi-Method approach using the PAR methodology with the SBP method and logical tools and techniques, helped the Project Team make strategic, prescriptive decisions. Having a mixture of one-on-one interviews, focus groups, and engagement at workshops, proved to be a successful approach to support collaborative decision-making. Incorporating the EP method delineated the phenomenon of cervical self-sampling and informed the SBP process with the cultural knowledge needed to style a

socially acceptable self-sampling scenario (Podolak, et al., 2017).

An article published by Anisivoma & Thomsan, (2012) about using Multi-Method research methodologies for more informed decision making, is an attempt to provide cross-disciplinary frameworks for research methodology. These activities provide distinctive openings for 'networking' between disciplines and for supporting researchers in facing the problems outside their own disciplines. Such frameworks support researchers in the application of multi-method approach within multiple case study research design. There were suggestions on analyses approaches. The real rationale on why the methodological and analytical approaches of multiple case study methodology are presented is just to provide researchers with stronger methodological approaches to facilitate informed deciding within the private and public spheres (Anisimova & Thomson, 2012).

Mono and Multi Method

Since the research design is critical for the success of the scientific research, the choice of the chosen strategy is extremely influential. The selection of research strategy isn't only guided by research objectives, but to the extent of existing knowledge, the quantity of your time and available resources. Counting on the utilization on mono-strategy when just one strategy was used, whereas mixed strategy is mainly consisting of qualitative and quantitative strategies or multi-strategy when qualitative strategies or quantitative strategies are used primarily (Vivek & Nanthagopan, 2021). It is important to notice that a number of the strategies, may need qualitative and quantitative approaches within the case study, but at this stage, mostly only categorization was considered. Even though the mono-strategy is the most generally used, certainly articles were

identified that used mixed or multiple methods of knowledge collection and analysis, like interviews and questionnaires during a different stage of a case study (Vizcarguenaga-Aguirre & López-Robles, 2020).

Characterizing a study as multi-method research isn't an easy task because it is important further investigation to seek out a consensual and multidisciplinary definition among academia. The results suggested that: qualitative multi-method research is usually balanced, usually integrating theoretical and empirical studies; qualitative multi-method research differs from other mixed methods within the extent that provides greater emphasis to the size of development, triangulation and complementarity. One limitation of this study is related to the incipient amount of multi-method research articles within the field of engineering, hence, the rationale why most articles are qualitative is because they're mixed with social sciences articles (Reis, et al., 2017).

Flick, (2014) stated that, "Qualitative research interested in analysing subjective meaning or the social production of issues, events, or practices by collecting non-standardized data and analysing texts and images rather than number and statistics." This definition stressed on how people make sense of something in the world. So, the qualitative research is basically associated with multiple aspects.

Meetoo & Temple, (2003) examined that using one method in research automatically enhances validity. They argue that if the findings from different methods are an equivalent this doesn't automatically prove the study is valid. It shows that the researchers looked just for evidence that supported the findings from one method. Complementarity of methods doesn't mean that different methods need to produce equivalent findings. That different methods work together as equal

partners has got to be demonstrated instead of assumed.

There are many critics about the qualitative research as many says it lacks in scientific firmness and has less justification of the methods, transparency within the analytical procedures and therefore the findings being merely a set of private opinions subject to researcher bias. For the researcher, when demonstrating firmness when undertaking qualitative research is challenging because there are number of accepted compromises about the standards which should be judged by the researchers. Although the tests and measures want to establish the validity and reliability of quantitative research, it cannot be applied to qualitative research. There are ongoing debates about whether terms like validity, reliability and generalisability are appropriate to gauge qualitative research. In broadest context these terms are applicable. Validly pertaining to the integrity and application of the methods undertaken and therefore the precision during the findings accurately reflects the information, while reliability describes consistency within the employed analytical procedures. However, if qualitative methods are inherently different from quantitative methods in terms of philosophical positions and purpose, then alternative frameworks for establishing rigour are appropriate. The suggestion is to have an alternative criterion for demonstrating firmness within qualitative research namely truth value, consistency, neutrality and applicability (Noble & Smith, 2015).

Ethical problems in qualitative research tends to be understated than problems in quantitative research. This shows that within the process of originating representations from a participant's experiences, researchers must engage during reaching a goal of critical consciousness. Critical consciousness

may be a process where one is reflective, self-aware, and is additionally involved in critically questioning one's consciousness to open one's mind, which suggests this prevents short sightedness.

On a special note, qualitative studies are often conducted in settings involving participation of individuals within the researcher's everyday environment. Any research conducted in such an environment may raise questions associated with risks to the participant, particularly the results of refusal to participate. Participants may feel pressured to participate out of obligation or because they have a high regard towards the researcher or a secondary motivation that reflects the facility differential within the participant-researcher relationship. Additionally, researchers themselves may worry about coercion in the event, people related to their everyday environments are recruited. Conversely, the researcher may paternalistically assume that participation will benefit an individual negating the potential harms arising from exploitation and exposure to inappropriate questions by participants divulging more information than they initially envisaged. Researchers are obliged to embed methods that make sure the participants are not coerced and not feel that the treatment they receive is influenced by their decision to participate or otherwise (Aluwihare-Samaranayake, 2012).

In qualitative research the evolving nature of the connection between the researcher and therefore the participant is partially shaped by the researcher's personal characteristics like race, class, age, and gender. The moral pitfalls are inherent in qualitative research; however, unexpected mistakes occurring in qualitative research are less addressed. For instance, ethical unsoundness or physical and emotional risks to the researcher can arise in qualitative research if the researcher faces

aggression from the participant; undertakes fieldwork at areas unfamiliar to the researcher; or divulges an excessive amount of personal information during the method of the research. Ethical or moral distress also can occur when the researcher relives his or her own personal experience through the voice of the participant's similar experience. It is identified that researchers, research assistants, and transcriptionists involved in research associated with violence or any sort of emotional trauma have experienced physical and emotional symptoms. (Aluwihare-Samaranayake, 2012). Multi-method studies can be applied in the strategic management field or any management field through in-depth research studies, and the initial model can be expanded through multiple data source usage (Vivek & Nanthagopan, 2020).

Conclusion

The main aim of this article is to explain what Multi-Method study is, what the key multi method design are in qualitative study and how multi method study could be carried out in qualitative study in the areas of management.

The findings have clearly shown that there has been a paucity of Multi-Method research published in the management field. This is hardly unexpected given the fact that, despite the fact that many individuals find the concept appealing, there are several obstacles to doing Multi-Method research. Those identified (Mingers et al. 1997; Mingers et al. 2001a) have been classified into the following categories: philosophy, culture, psychology, and practice. Philosophically, the issue is one of incompatibility across frameworks. It is considered that methodologies are linked to paradigms, and that paradigms make assumptions that are incompatible with one another. Although there are several counter-arguments to this viewpoint, pluralism is

typically deemed acceptable, if not desired, in social science research more broadly (Bryman, 2001).

Increasingly popular among scientists is critical realism, which is a philosophy of science that is consistent with pluralism and compatible with individualism (Mingers, 2000). The challenge, from a cultural standpoint, is that the information systems field tends to divide into sub-cultures based on certain nations, university departments, publications, or even approaches. Researchers, particularly young researchers, are under increasing pressure to "follow the party line" (Applegate and King, 1999).

Individuals have certain personality characteristics or competences that predispose them to one kind of study over another, for example, quantitative analysis over facilitation, according to psychological studies. Multi-Method research requires both technical proficiency in a variety of procedures and familiarity with a variety of interaction styles. Finally, and probably most importantly, there are several practical limits to consider. When it comes to Multi-Method research, it may be time-consuming and costly; it is frequently simpler to "sell" clear-cut mono-method research projects to funding agencies and journals; and the temptation to publish can be quite crucial, particularly early in one's career.

The attraction of Multi-Method research, as measured by the depth and enhanced validity of the findings, will, I think, ultimately work in its favour in the long run, notwithstanding these problems. In the field of Management Science, a study was recently released that examined the degree to which practitioners used Multi-Method work in the context of organisational interventions (Munro and Mingers, 2002). Because of the demands of complicated real-world issue scenarios,

the utilisation of Multi-Method work was quite popular in this setting.

A number of practitioners said that they used many approaches in conjunction with one another, with the degree of effectiveness, at least according to the practitioners, being very high. It was usual to see certain combinations of methodologies employed together. Combinations of hard and soft approaches were less widespread than they might have been.

The limitations of Multi-Method study can be shown under Interviews, Observations, Digital Diaries, Focus Groups and Stakeholder workshops. One technique researcher has tried to determine their research by combining different methods to match the results, a technique often called 'triangulation'. Moreover, in the Strategic Management field, the Multi-Method study is used. Finally, researcher has discussed the way of making selections between mono and multi method.

Recommendations

First, the researcher should decide between mono method and the multi method. If the researcher needs to obtain a result which can make a more generalizable solution to the world or which can see the different aspects of the research problem, multi method is suitable. However, in simple research or in research where only a specific population is targeted, mono method should be used.

The prerequisites for validity and reliability in qualitative research are being discussed with a lot of passion right now. Due to the sheer nature of the research methodologies and epistemological assumptions, which encourage the study's uniqueness, some people believe that typical reliability metrics aren't relevant at all in qualitative research.

There are also calls for the use of the same criteria for qualitative and quantitative research for assessing the reliability of the research results, as there are for quantitative research. There are several variances between these two poles that might be used to defend the findings of the investigation. However, the question of credibility cannot be ignored, regardless of the research's epistemological methodology (Gibbs 2002, p. 13).

Lincoln and Guba (1985) provided a detailed description of the criteria that are typically used to evaluate qualitative research. They respond to the critiques levied towards naturalistic research and conclude that the quality of the study and its results is determined by the reliability of the study and its findings. They agree with others that traditional criteria are inadequate for qualitative investigations, and they presented the following criteria as alternatives: (1) credibility, (2) transferability, (3) dependability, and (4) confirmability.

Contribution

There is a large research gap in academic world regarding the Multi-Method studies as stated by Takhar-Lail, (2014) and Anguera et al., (2018). The application of Multi-Method study is not supported as expected by the academic articles and researches. Therefore, the main aim of this article is to explain what is multi-method study, what are the key design of multi-method within qualitative study and how multi-method study could be carried out using qualitative study in the areas of management. Moreover, researchers have been advised to make selections between mono-method and multi-method according to the nature of the study.

Limitations

Provide real time data as it does not depend on the accurate recalling but the validation of the data can be taken through questions collected in other forms, also,

participants can choose their time for the research; digital diaries allow the participants to provide data without having an interaction with the researcher; focus group discussions are participatory and encourage the participants to have further discussion, share their experiences and discuss on the matters. Stakeholder participation provides an opportunity to the participants and the stakeholders to discuss and provide feedback on findings. This allows the researcher to use suggestions given from the prioritised group for research intervention. (Johnson, et al., 2017).

The limitations of Multi-Method study can be shown as:

Interviews: Dependent on ability of participant to recall information.

Observations: Data may be repetitive, time consuming, longer timeline for setting up, and observations done along with the reports are obtained only during the event.

Digital Diaries: Some participants refuse to record the data; therefore, researchers are unable to investigate the implications of the data.

Focus Groups: Dependent on the capability of participant to recall information and have the self-confidence to contribute towards a discussion. It requires adequate numbers of participants present at the same time.

Stakeholder Workshops: Needs large, accessible venue and satisfactory facilities and sufficient number of participants attending at the same time (Johnson, et al., 2017).

Originality

Under the originality, researcher should make sure that original information is available in the research. An original research paper is the one based on original research that presents new knowledge

instead of submitting an existing finding using different arrangement. There are many ways to submit new knowledge: observations, experiments and new approaches to solving existing problems, are a few. Moreover, when the primary data is used in the research, level of originality is high. In this research, it further offers insights to the researchers who plan to conduct Multi-Method

qualitative study despite of the critics in the field. For the Literature review, researcher referred 25 existing journal articles that focus on Multi Method research, Qualitative research and Multi-Method research in management which were digitally accessible and Qualitative content analysis was used to analyse the data. These journal articles were carefully analysed to develop this article.

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