



# Exploratory Sequential Mixed Methods in Doctorate Research: Extended Application of Constructivist Grounded Theory

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## Abstract

*The study demonstrates the trajectory to apply constructivist grounded theory in exploratory sequential mixed methods during doctorate research. It incorporated author's systematic review of literature for qualitative, quantitative, and mixed methods to develop meta-inference. Moreover, it highlighted the significance of the implication required by the constructivist grounded theory in an exploratory sequential approach in mixed methods. The findings revealed more accurate insight as compared to other approaches. Furthermore, it concisely covers a comprehensive research problem. In the first stage, this study offers consecutively in-depth understandings of the application of constructivist grounded theory. Primarily, qualitative data should be collected through interviews for developing theory. The second stage dealt with an accumulation of quantitative data through a designed questionnaire to test the newly developed theory empirically in an exploratory sequential mixed method. Finally, the significance of meta-inference was drawn through doctorate research outcomes. The mixed method is the synthesis of qualitative and quantitative methods. The significance of constructivist grounded theory, quantitative research, and meta-inference in the exploratory sequential mixed methods are worthwhile to those who are working on a doctorate research work. Moreover, it would assist scholars to develop comprehensive knowledge that can be beneficial to academia and practitioners.*

**Keywords:** *Mixed Methods, Meta inference, Sequential exploratory approach, Ph.D. Thesis methodology, Constructivist Grounded Theory*

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## **(1) INTRODUCTION**

This study focuses on the implementation of constructivist grounded theory using a sequential exploratory technique in Mixed-Methods. It is the extension of constructivist grounded theory to the mix-methods by creating the theory for testing a certain part of the extended grounded theory. Plowright (2013) resolved the issue of implementing mixed-method research for students but it still remains challenging for PhD scholars while performing their research work. Thus, it is imperative for emerging scholars to resolve the query of easily adopting mixed method by using grounded theory.

Similarly, it also essential for fresh PhD scholars to comprehend grounded theory in the context of mix-method to successfully execute their PhD research projects. Hence, this study concisely embarks on Exploratory Sequential Mixed Methods in mixed methodology, which is one of the six approaches given by (Creswell, 2003). Creswell (2017) and Denzin (1994) keeping in view qualitative research stated that a study methodology must be composed of certain steps. Firstly, to identify the philosophical assumptions and interpret the framework, secondly, to follow guided procedure, thirdly, to create a linkage between appropriate methodology and selected interpretive framework and finally, to select an adequate research method that assists in collecting reliable data for analysis. Yvonne (2010) and Flick (2011) agreed on the above-mentioned procedure of (Denzin, 1994) that may help to choose the best alternative method in collecting and analysing data of the study. The core purpose behind employing mixed method is summarized below after reviewing past literature comprehensively. First and foremost, is to examine views on complementary relationships. Second, is to be aware of any phenomenon completely. Third, to develop theory for testing empirically in the near future. Fourth, is to extend previous idea or study, fifth to confirm previous studies, sixth to compensate the subject matter if it is poorly presented using irrelevant methods, and seventh to understand any phenomena with different perspectives. (Greene et al., 1989; Creswell, 2003; Tashakkori and Teddlie, 2003 and Venkatesh et al., 2013). The above-mentioned reasons to adopt the mixed methodology equally justifies to choose a contemporary methodology for PhD Thesis. Hence, after deciding about the methodology then research paradigm is the core area to further proceed with the research work.

## **(2) RESEARCH PARADIGM AND ITS OBJECTIVES**

Paradigm is derived from the Greek word paradeigma that refers to provide guidelines or form patterns. Kuhn (1962) described it as a conceptual framework of an operating discipline. Burrell and Morgan (1979) referred it as “world view” in other words observing the whole world in a specific manner. Patton (1990) perceived it critically for the researchers so that they understand the whole research process followed around the world. Research process reflects the beliefs of the scholars that ultimately shapes the selected research study. The researcher than accumulates, analyse data, and finally presents his research outcomes. Patton (1990) stresses on clear selection of paradigm to know about researchers’ role in the research process to predict future directions. Thus, the ultimate emphasises of the proposed

research is to discover and understand the social attributes related to the prevailing academia in the society. In this regard, Kuhn (1962) briefly discussed the research paradigm as essential beliefs, problems, and variables that are ascribed to similar methodological approaches and tools that are employed in the research process.

Generally, there are four research paradigms that profess the use of mix-method research to examine proposed hypotheses including 1. Dialectical Perspective, 2. Critical Realism, 3 Transformative Emancipation, and 4. Pragmatism. The discussion regarding these paradigms endorses to use mixed-method research through critically examining their appropriateness in the research problem, moreover, selecting right paradigm for the study in mixed methods.

### **(3) THE PARADIGMS**

#### **(4) DIALECTICAL PERSPECTIVE**

Dialectical perspectives enable to understand the phenomenon of research by using two or more paradigms simultaneously. Creswell et al. (2006) emphasized using multiple paradigms within a “dialectical perspective” to discover the best world view regarding the study being conducted. Greene and Caracelli (2003) argued that using multiple paradigms raise inconsistent and quarrelsome opinions. Contrary, Creswell et al. (2006) responded that inconsistencies, tensions, and antagonisms well explains several ways to value the social world. Greene and Hall (2010) acknowledged that dialectical perspectives support allows one to elucidate their thought process regarding two or more paradigm whose outcome is a decent dialogue. Greene (2010) retells and compares about the uniqueness of dialectical paradigm to other paradigms because of its outcome as dialogue. Thus, the significance of this paradigm is not only to combine two paradigms but to highlight ways to reduce the ambiguity and develop understanding for different perspectives. That is why dialectical perspective is preferred while applying divergent data analysis.

Dialectical perspectives basically involve the collection, investigation, and interpretation of data with the objective of encouraging dialogue. Shannon (2015) uniquely edifies that dialectical perspective creates a link between contradictory ideas, datasets, and differing theories. Moreover, emphasizes that paradigm supports disagreements within the data set through the process of dialogue throughout the research. Greene and Hall, (2010), Creswell and Poth, (2016) enlightens on the usage of dialectical perspectives while adopting mixed-methods and presenting data and results collectively. Furthermore, the authors elaborated that this paradigm allows the researchers to syndicate two or more paradigm when uniqueness is identified in the issues under investigation. For instance, a combination of pragmatism and transformative emancipatory paradigms or else can be adapted to execute the research process.

#### **(5) CRITICAL REALISM**

Followed by the paradigm of dialectical perspectives there exist chance of polarization, emerging from multiple paradigms or dialectical perspectives (Modell,

2009). Thus, to overcome the issue of polarization scholars may use critical realism as a paradigm. Critical realism illustrates that researcher generates personal exposures and perceptions while viewing the world. Bisman (2010) argued on impartiality of real theories. However, the accountability and goal of the critical and real researcher is to evaluate, measure and estimate the level of reality in their findings. Maxwell and Mittapalli (2010) pointed out that a specific event develops critical reality in an existing situation, instead of general pattern.

Maxwell and Mittapalli (2010) stressed on the critical realist believe that objectivity can be estimated or approximated which was later supported by (Creswell et al., 2006) who mentioned that critical realists individual has his/her mindset and their set of perception on which they construct their beliefs. Therefore, the author mentioned that critical realism aims to enrich the genuineness of the central thesis by providing supportive argument from both qualitative and quantitative research. Critical realism as a paradigm is helpful in reducing the limitations of qualitative and quantitative methods together.

Clark et al. (2007) embarked on both quantitative and qualitative research crucially focused on examining causal relationship and processes to develop a perception on a certain issue. Hence, it is the appropriate paradigm to reconnoitre any phenomena regarding qualitative and quantitative study. Therefore, Shannon (2015) recommended that critical realism is the bridge between quantitative and qualitative research that makes work possible when there is a difference in the outcome of qualitative and quantitative methods. Moreover, the paradigm helps scholars to better understand the variances in the outcome of the two approaches after thoroughly reviewing the literature. This technique encourages researchers to reveal true information to work on evaluation studies.

## **(6) TRANSFORMATIVE-EMANCIPATORY**

The social consciousness is established through Transformative-Emancipatory paradigm. The main purpose of implementing this paradigm to highlight the social concerns for instance; infirmities, race, gender, harassment, discrimination and demoted in society. Primarily, this paradigm offers guidelines to comprehend ignored sectors of society to discover their issues. Mertens (2010) emphasized on transformative emancipatory perspective and suggested individuals to collaborate with minorities whose voices are inaudible in the society with that marginalized people of the society. Furthermore, the Transformative-Emancipatory paradigm encounters challenges confronted by ethnic minority and demoted subgroups. Tashakkori and Teddlie (2010) argued that scholars using Transformative-Emancipatory research method can produce results that encourage social justice for marginalized groups. Mertens, (2003) alluded pragmatism an imperative practical approach that never deals with issues that are connected to a marginalized specific group. Thus, this perspective enhances national consciousness on matters related to race, class, gender, and debilities. Briefly, it considers ignored individuals of the society and conducts research on how to treat that particular group. This paradigm is worthwhile for conceptualization, collecting and analysing data in accordance with the social and historical context of the civilization dealing with the issue

of constitutional rights, power, and freedom of speech. Hence, this perception is recommended for mixed methods to achieve the said goals and execute a guided research process.

## **(7) PRAGMATISM**

Johnson and Onwuegbuzie (2007) recommended pragmatism paradigm as it is practical and result-oriented in an existing phenomenon. Morgan (2007) stated that pragmatism is a complete approach to conduct a research study, moreover, gave importance to pragmatism by comparing it to positivism and Metaphysical thoughts derived from post-positivism, participatory approach, and critical theory. Therefore, Shannon (2015) stressed on pragmatism as it keeps a balance between subjectivity and objectivity of the research. Concisely, it is a useful instrument to derive generalized new theories.

Contrary, Creswell (2003) linked pragmatists to those who directly encounter problems by selecting and addressing the best philosophy, illustrating the main purpose, and accumulating interrogations for the research model. The noteworthy part of this paradigm is that the scholars can focus on research problems without perturbing about the research method to be used, thus, permitting the application of manifold methods to inspect a phenomenon. Therefore, Peirce (1992) well explained that pragmatism an approach for mixed methods is considered before an upcoming problem of social science research and then employed in different methods to gather and scrutinize the available data of the problem.

Similarly, Morgan (2007) highlighted the versatility of this paradigm and observed that pragmatic paradigm enables to deal subjectively as well as objectively with the available data and they portray personal reflections while performing analysis. Therefore, Biesta (2010) referred to this paradigm as the research product created through its outcomes allowing to embrace both positivist and constructivist worldviews. Creswell et al. (2006), Teddlie and Tashakkori. (2009) also observed that pragmatism is neither dogmatic nor it has an either-or choice among constructivism and postpositivism rather it allows practical responses to queries interrogated by the investigator eventually making it suitable for conducting research through mixed method. Likewise, Shannon (2015) also drew attention towards pragmatism and observed that it actively deals with the queries in research and appropriately creates a link between theory and data. Thus, concluded that pragmatism is the upmost applicable paradigm for the contemporary mixed methods in all aspects.

## **(8) RESEARCH METHOD**

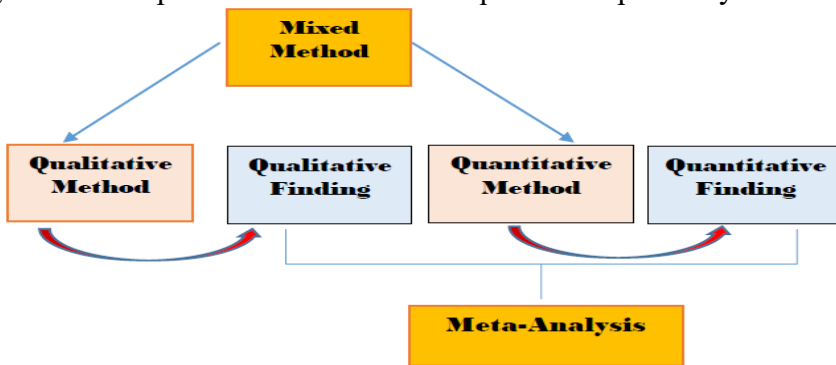
Research approaches are broadly classified into three types firstly qualitative or interpretive that covers numerous research areas aimed at understanding a phenomenon and then relying primarily on deducing non-numeric data. Secondly, quantitative or deductive approach that focuses positiveness and comprises analysis based on mathematical data and statistical techniques. Thirdly, the mixed method allows to use multiple methods at the same time. Paradigms of mixed methods consist of pragmatism, dialectical perspectives, critical realism, and transformative-

emancipatory. Moreover, this method authenticates to use narrative analyses and numerical analysis of the available data (Tashakkori & Teddlie., 2003).

It is very challenging to discover reality comparably to work on existing data which is available from various sources (Orlikowski & Baroudi, 1991; Tashakkori & Teddlie, 2003). Similarly, Grafton et al. (2011) highlighted that mixed methods integrates the opportunities and experiments of specific area in the study. Likewise, the contribution of mixed methods covers such methodologies that ultimately provide trustworthy results. This study highlights Mixed-Method Sequential Exploratory Research proposed by (Creswell et al., 2003), furthermore, authors of the study elaborates six useful techniques, for instance, Sequential Explanatory, Sequential Exploratory, Sequential Transformative, Concurrent Triangulation, Concurrent Embedded, and Concurrent Transformative Strategies.

A contemporary scholar who aims to explore a phenomenon makes the most of sequential exploratory research strategy. Moreover, the scholar desires to expand the conclusions of qualitative outcomes expansively. Thus, qualitative data and analysis is the critical phase of the research. Burrell et al. (1979) endorsed a design for the researchers to test the newly developed theory that they generalized after the expected outcomes of qualitative research. Creswell et al. (2003) proposed a sequential exploratory research strategy to benefit scholars who desire to discover a phenomenon and wish to expand the outcomes of qualitative results systematically.

Figure 1 Concept of Mixed-Methods Sequential Exploratory Research



## (9) QUALITATIVE RESEARCH METHOD

This method is considered the first phase of the thesis through implementing Grounded Theory. Previously, several grounded theories are designed but this study would focus on the constructivist grounded theory (Charmaz, 2006). Specifically, will shed light on the qualitative research method and its importance for fresh scholars interested to discover the significance of the mixed methodology. Creswell, (2007) recommended that qualitative method explores practices and prevailing problems of individuals. It is highly recommended to PhD scholars in their dissertation to explore the concerned topic through novel research questions



and procedures, collect data from concerned participants, analyse the data, draw reasonable conclusions, interpret the outcomes to clear the meaning to the data. It has already been discussed that qualitative research is used to explore occurring issues or problems because it is essential for society to explore and overcome it.

Similarly, Creswell (2013) stressed to conduct qualitative research as it empowers the individual or group of society. This empowerment is formed when one is well aware of other stories, share their voices, and condense the impact of researcher and participants relationship in the research. Thus, literary work, sharing of stories or script, academic works are exciting areas to work and explore. Hence, qualitative research benefits when the complicated and complex issues of society come across. It creates a link or mechanism to develop theories related to practices, know-how, emerging concerns, and other aspects of society. It is suggested that (Charmaz, 2006) Constructivist Grounded Theory should be used in a qualitative study to develop theory, form the framework, and research objectives for future research to well design Ph.D. thesis.

## **(10) GROUNDED THEORY**

Barney Glaser and Anselm Strauss, (1967) proposed Grounded Theory approach that was later refined by a number of scholars (Strauss & Corbin, 1997; Clarke, 2005; Charmaz, 2006). originally grounded theory was considered as the positivist criteria of the inductive or qualitative research that strictly refers to empirical data analysis and scientific authentication of the phenomenon. Therefore, Hennink et al. (2011) comprehended grounded theory as a consistent approach that offers a logical and rigorous method for qualitative research. Holton (2010) referred it as the most appropriate research approach that embarks on exploratory research for developing a theory. Similarly, Clarke (2012) viewed grounded theory approach as the premium approach as it generates a theory to apprehend the unexplored areas of the prevailing problems in the society as a whole.

Strauss and Corbin (2014) suggested to use grounded theory as it helps to develop a theory from data in effect which is systematically obtained, analysed, and evaluated through a series of process. Therefore, grounded theory is deliberated as one of the reliable and suitable methods for qualitative research. Henceforth, it is also chosen in the first phase of qualitative research of the current study. Birks and Mills (2015) appreciated this theory comparably to other methods of qualitative research because it has the power to explore a challenging phenomenon comprehensively and easily. Grounded theory has various versions that are considered more reliable to use for carrying on exploratory research and developing a logical theory (McCallin, 2004; Fisher, 2004). Grounded Theory is composed of different approaches, for example, Strauss and Corbin (1997) noted that the study commences with a well-defined problem. On contrary, Glaser, (1967) argued to begin the research process with a blank slate. Whereas, Charmaz, (2006) constructively emphasized on grounded theory to discuss the association between the scholar and the construct as the outcome of the study. Thus, the Constructivist version of Grounded theory is more flexible as compared to the primarily developed grounded theory.

Clarke (2005), Charmaz (2006) stated that constructivist grounded theory commences with identifying problem rather than the established theory allowing to use of reflexivity and their own interpretation skills to recognize the theoretical implications. Rubin (2005) highlighted that grounded theory open-mindedness for exploring innovative ideas that are not predicted at the beginning of research. Clarke (2007) emphasized on active participation to construct reality in the research process. Easterby et al. (2008) supported this view of openness as it enables to understand and deduce the transcript of thorough interviews to delve into the phenomena.

## (11) DEVELOPMENT OF CONSTRUCTIVIST GROUNDED THEORY

Constructive grounded theory approach would be used in the first phase of this study to explore the main research question in the Ph.D. thesis. Figure 2 summaries the multiple steps of the constructivist grounded theory approach. It must be noted that there is difference between the grounded theory and other qualitative approaches. Grounded theory collects data and analyses it completing the cycle of the interview. Thus, this section illustrates the multiple phases of analysis that will be followed by brief discussion in the proceeding section.

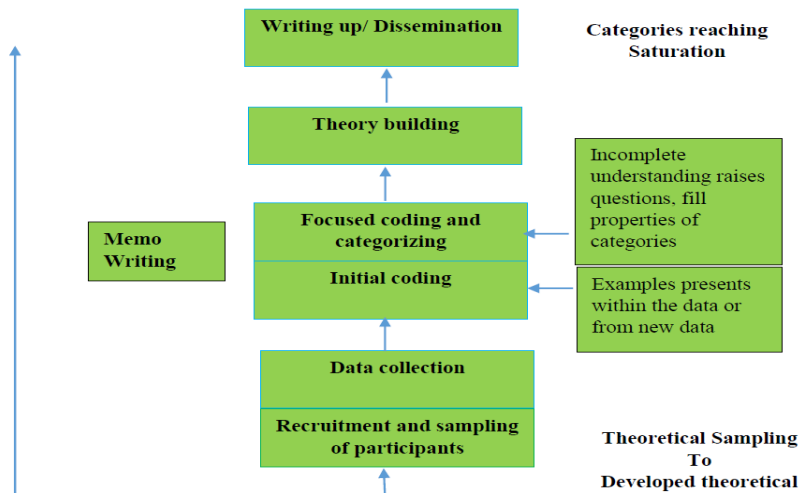


Figure 2 Procedure of analysis (Charmaz, 2006)

## (12) REQUIRED RESEARCH QUESTION

To develop research queries in the context of constructivist grounded theory was initially recommended by (Charmaz, 2006). The research question is an outcome of the well-defined problem. Therefore, the researcher must responsibly identify the real crucial problem of the phenomena and lead its questions towards the application of appropriate methodology. Therefore, it is suggested to all Ph. D scholars to initially review the identified problem, and then form research questions to further proceed its application for the constructivist grounded theory approach



in the mixed methods. For example, the questions in the research must be related to discover social process and develop a theory which does not exist, or there is some contradiction in past or a study that requires modification or further addition in the current literature.

### **(13) ESTABLISHED RECRUITMENT AND SAMPLING PARTICIPANT**

The second phase of constructivist grounded theory pertinently helps to develop sampling framework covering the research problem and well-designed thesis objectives. Moreover, the relevant participants must also be clear in this stage. Interview Questions are required to be designed in accordance with the thesis research question. However, these open-ended questions must cover all the related problems relevant to the thesis topic.

### **(14) PROCEDURE OF DATA COLLECTION**

Collection of data is crucial step after recruiting and sampling the potential participant (Charmaz, 2006). Theoretical framework created from a number of sample provides a detail guideline and reason for selecting participants, their sampling attributes, moreover, reasons for accumulating data. However, gathering data must be according to the research questions. Hood, (2007) discussed that theoretical sampling is an important component in grounded theory. It is technically a special feature of grounded theory. Therefore, Charmaz (2014) highlighted that theoretical sampling is generally ignored in grounded theory whereas, its findings are perceived as uncertain and unrewarding for others.

Ritchie and Lewis (2003), Gillham (2000) specified that verbal interview refers to sharing one's ideas and is one of the best tools to explore practices in reality. Denscombe (2014) distinguishes among structured and unstructured interviews that the former involves listing of formal but open-ended queries with a fixed format like questionnaire, unstructured interview are open-ended questions and allows interviewees to discover the issues associated with the problem and explain the topic in detail. Thus, Suler (2004) recommended that interview allows one to extract inclusive information on specific issue in qualitative research.

### **(15) DEVELOPMENT OF INITIAL CODING**

Understanding data to develop theory is prerequisite of Initial coding (Glaser, 1967). Charmaz (2014) discussed that analysing interviews is the initial step to conduct initial coding. Moreover, this sequence of analysis shrinks errors to grasp the complex issues. Scholars following grounded theory recommend these series of coding that assist to analyse and develop an appropriate theory. Thus, the initial coding method greatly helped us in preparing step-by-step coding of the interview from each respondent.

### **(16) DEVELOPMENT OF FOCUSED CODING AND CATEGORIZATION**

Focused coding is very decisive for developing a theory because codes are pertinent, selective, and develop the concept if followed word by word, and line by line (Charmaz, 2014). Primarily, this stage develops theoretical sets through analysing data. This step requires to filter and reassess initial codes rendering to the theme significant to the subject matter. Similarly, initial code is sustained as focused code, but several initial codes are collectively transformed into single-focused code. A thorough analysis of focused codes having higher analytical value, paves the way to form classifications. Thus, this process of establishing groups leads analysis towards the conceptual level.

### **(17) WRITING MEMO TO BUILD THEORY**

Memo writing develops theory through constructivist grounded theory. It greatly helps in comprehending and conceptualizing the data. Moreover, it also derives the features of each established category through refining their theoretical categories (Clarke, 2005). It is also considered an informal way of writing notes also referred as the Quality Cornerstone in grounded theory (Briks & Mills, 2015). Therefore, it is suggested that the PhD scholar interested in work on mixed-method is equally responsible to integrate all appropriate ideas that emerge during the coding process. Moreover, must review them thoroughly to develop refine concepts that emerged during the research process.

### **(18) THEORY DEVELOPMENT**

Charmaz and Belgrave (2007) described constructivist grounded theory as inclusive qualitative research comprising guidelines for accumulating data and analysing to mature a middle-range theory. Constructivist grounded theory (CGT) develops a first-hand theory from empirical data and rigour analysis. It also comprises initial, and focused coding, categorization, and developing theoretical categories. Memo writing during the research process refines the concepts. Grounded theory research commences with the data assembling and ends with the data elucidations. Moreover, these elucidations form and establish an exploratory theory.

### **(19) CATEGORIES TO REACH ON THEORETICAL SATURATION**

Constructivist grounded theory endorse theoretical saturation within the limitation of the pragmatic paradigm. Theoretical saturation begins when new coding or categorization formation ends, or repetition emerges in the research process (Holton, 2010). Charmaz (2014) suggested to continue accumulation of data and analyse till the theoretical saturation. This thesis considers theoretical saturation as an imperative aspect of constructive grounded theory, data collection through interview and coding till new codes were being generated. In other words, repetition of coding occurred in the process of analysis while collecting new data. Hence, the study should be reached theoretical saturation after completing the entire process.

### **(20) QUANTITATIVE RESEARCH METHOD**

The second phase of the thesis must be composed of quantitative findings which

are a result of quantitative research method. Proposed research questions of the well-designed thesis should be based on relationships that are committed through hypotheses. This method offers a base to use statistical tests applied on the assembled data and then enables to end with logical interpretation of the theory which is being designed in phase 1 of the thesis. Quantitative findings need an exclusive survey that is conducted in the relevant field to receive true responses regarding the selected topic of the Ph.D. Thus, it is recommended that there must be qualitative findings as well as quantitative findings in the newly designed thesis on the basis of the mixed method. Moreover, quantitative outcomes must be validated with the outcomes of developed theory in the Ph.D. thesis. Hence, the outcomes of the survey questionnaire overcome the limitation of semi-structured interview results and provide more comprehensive knowledge.

## **(21) DEVELOPMENT OF THE QUESTIONNAIRE**

Questionnaire is a conventional instrument for collecting appropriate data from the respondents. Basically, it is used for collecting prime data as it is convenient and cheap comparably to other methods. It collects large data regardless of ideas, attitude, and practices in case of an interview (Sharp et al., 2002). Subjectivist referred as “Phenomenologist” and objectivist referred as “positivist” prefer questionnaires to execute their research however, there is a difference in their way of usage. The subjectivist uses open-ended questions whereas, the objectivist prefers closed-ended questions. This allows the quantification of qualitative info which can further be utilized for statistical analysis and hypotheses testing (Atkinson et.al., 2005). Sharp et al. (2002) emphasized that questions must easily be comprehended by the participants therefore, questions must be clear and succinct because lengthy and difficult queries create difficulty for the respondents. However, the choice of questionnaire on the nature and requirement of the thesis. Oppenheim (1992) stressed on open-ended questions as they are designed easily although they are difficult to fill in contrast to the closed-ended questions. Close-ended questionnaire implies a much higher response rate. Moreover, open-ended questions are difficult when it comes to coding and analysis. Thus, Bryman (2007) indicated to develop a questionnaire that gather exact amount of data required to receive related responses

## **(22) VALIDITY AND RELIABILITY**

Validity and reliability help to test the questionnaire as the survey questionnaire was developed from the outcomes of the qualitative phase. Groves, et al. (2004) stressed on three imperative features such as, first evaluating the validity and reliability i.e., to maintain standards of the content that refers to whether the questions are pertinent to the subject and cover the concerning points. Second, “Cognitive standards” referring to questions that are easy to response particularly must cover relevant information. Third, usability standards refer to convenience i.e., respondents feel comfortable to answer. Thus, this study incorporates four major techniques to evaluate the queries designed on a certain scale to survey. Hence, a self-developed questionnaire can be made reliable and valid in the following ways:

### **(23) EXPERT REVIEW**

Expert review validates a questionnaire and assesses whether its required standard content, cognitive, and usability are met. It is a technique where the experts assess the questions and make sure content, cognitive, and usability standards (Groves et al., 2004). The questionnaire of the thesis should be vetted by at least three experts. It must be reviewed thrice and included further recommendations regarding organizing, vocabulary, formatting, and structuring to improve the content, cognitive and usability standards.

### **(24) SUBJECT EXPERTS REVIEW**

Subject expert review develops a survey where the expert reviewer examines the rudiments of the questions. Since expert reviewers might not be field specialist, therefore, a questionnaire should be re-assessed by the field experts. Thus, five subject specialists including professors and members of research committees from prestigious universities/institutions must review a newly designed survey questionnaire. They would also suggest amendments in any type i.e., Structure of questions, etc. it must be successfully incorporate and modified for the betterment of the questionnaire.

### **(25) COGNITIVE INTERVIEWS**

Cognitive Interviews improves the design of the questionnaire. Groves et al. (2004) explained that this technique helps to know how respondents react towards a set of queries when the researcher's drafted questionnaire is presented for interview.

### **(26) PILOT SURVEY**

A pilot survey plans to assess the questionnaire where a small sample is used to survey the respondents. At least 10% surveyed responses can be collected to execute it to know participants views about the multiple set of defined questions. Moreover, to know whether all the potential respondents are contented to write and satisfied with the formatting and language of the questionnaire.

### **(27) EMPIRICAL ANALYSIS**

It refers to statistical tools employed to receive quantitative outcomes that are used to draw logical reasons. Although, a number of econometrics and statistical techniques are accessible, but the researcher chooses a particular technique that is rational for the selected topic of their thesis that justifies the importance of the study.

### **(28) SIGNIFICANCE OF MIXED-METHODS**

This study highlights the significance of the contemporary method for PhD scholars. Modern researchers Teddlie & Tashakkori, (2009) referred to mixed method as the

third dimension of methodologies. Johnson et al. (2007) stressed on the compound of qualitative and quantitative methods. According to them, it must be broad and should be of in-depth understanding. Venkatesh et al., (2013) presented benefits of mixed methods such as first enables to address the exploratory and confirmatory research questions. Second, provides robust outcomes. Third, the researcher can avail the opportunity to produce a variety of complementary perspectives regarding related issues. Similarly, Creswell (2003), Jick (1979) Johnson and Onwuegbuzie (2004), and Venkatesh et al., (2013) accepted that the mixed method does not replace other approaches, but it reduces the weaknesses and improves the strength of qualitative and quantitative methods.

Creswell et al. (2006), Greene (2003), Teddlie and Tashakkori (2009) emphasized that mixed method can be used during qualitative or quantitative method of research conducted to explore realism through qualitative and quantitative data. Tashakkori (2007) highlighted that mixed methods do not only offers accurate information rather it allows a more comprehensive understanding of the problem being assessed. Studies quantitative in nature follows qualitative research to study associations and develop theories for the real world.

Creswell et al. (2003) noted six useful techniques of mixed methods namely “Sequential Explanatory Strategy, Sequential Exploratory Strategy, Sequential Transformative Strategy, Concurrent Triangulation Strategy, Concurrent Embedded Strategy, and Concurrent Transformative Strategy.” This study recommended adopting the sequential exploratory approach related to the applied qualitative approach to discover the selected phenomena of your research areas i.e., finance, marketing, human resources, supply chain and., etc., and then applied the quantitative approach to assess the exclusive findings that would have been concluded from the qualitative method. This strategy incorporates two phases; the first phase involves a collection of non-numeric data through interviews to form a theory. The second phase accumulates numeric data through the questionnaire to draw meta-inference from the outcomes of both methods. Primarily, a sequential exploratory strategy explores the phenomenon using quantitative data and results to sustenance and facilitate the elucidation of qualitative outcomes (Tashakkori et al., 2007). Morgan (2007) also acknowledged this strategy as it is appropriate when concepts that emerge from the qualitative research are then generalized through quantitative research based on a large distinct sample. According to Creswell (2003), this strategy is required when a researcher wishes to examine a phenomenon to expand and generalize the discoveries of qualitative exploration. Thus, mixed research methods sequential exploratory strategy is preferred to conduct qualitative research and an empirical study to comprehend the qualitative phenomena through empirically. Moreover, it is also confirmed that it is a pragmatic paradigm that emphasizes the effectiveness and pragmatism of the results.

## **(29) RESULTS**

Results are always drawn in the form of meta-inference as it is an essential part of mixed methods. Meta-inference belongs to the integration of both qualitative and quantitative findings. Similarly, meta-inferences are considered as theoretical

statements that enlighten any circumstance. A good meta-inference includes all element's interpretations, their scope, and limitations, and even its process is somehow alike to the procedure of constructing a newly theory (Venkatesh et. al., 2013). Furthermore, Morse (2010) mentioned that meta-inference is developed inductively, deductively, and abductively. It depends on the designed conceptual framework. Therefore, researchers generalize outcomes obtained from particular observations. Usually, scholars also fail to develop meta-inference in case the research objective is not accomplished.

Venkatesh et. al. (2013) observed that high quality of meta-inference relies on the finest quality outcomes of both qualitative and quantitative methods. Therefore, it requires hard work to cautiously draw logical conclusions after analysis. These outcomes of both types of research are relay on the research questions and designing the methodology.

Erzberger and Kelle (2003) explained that meta-inference development is linked and contingent to research questions, its methodology and empirical proof. However, there is a lack of proper guideline regarding meta-inference. A sound meta-inference covers comprehensive aspects. Mixed-methods conclusions through meta-analysis are in the form of “convergence, divergence, and complementarity.” If research outcomes are concluded in convergence, then integration of all the outcome would add and develop a sound argument. Moreover, if the findings are concluded on divergence then the researcher is responsible to recognize the whys and wherefores and further re-evaluate the results. However, findings of mixed methods come on complementarity that implements more than one method to scrutinize the phenomena. Hence, meta-inferences are theoretical in nature regarding the phenomenon and existing circumstances that gives the idea and defines the scope for research. It aims to develop a well-defined set of analysis drawn from the qualitative and quantitative judgements.

### **(30) CONCLUSION**

This study motivates fresh scholars to select an exploratory sequential approach based on grounded theory. Moreover, it deals with the contextual covered in the introduction, research paradigms and their objectives, and methodologies characterized by qualitative-quantitative methods. Grounded theory is primarily the process that carries a set of procedures that have been explained in such a way that new entrants in research can easily understand its implementation. Similarly, this study inculcates the significance of quantitative method, questionnaire development, validity, reliability, mechanism of empirical analysis and finally, drawing of meta-inference. The fundamental aim of the above-discussed detail is to hearten the new scholar to explore critical research problems and develop accordingly because new theories require empirical testing. Therefore, this new dimension provides wide-ranging knowledge to all the stakeholders of the concerned subject matter.



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