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Beyond methodology: Theoretical foundations of triangulation in qualitative and multi-method research: A literature review

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Abstract. The study examines the concept of the “triangulation approach” in the social research methodology. Triangulation is an innovative method, particularly in qualitative and multi-method research. Social scientists have recently shown active interest in applying the triangulation approach, especially for conducting in-depth research using multiple inquiries. However, this method faces criticism and misunderstanding among social researchers regarding its essence, methodology, and the credibility of the results obtained. Therefore, this study thoroughly analyses the essence of triangulation and demonstrates the types of this approach and its possibilities in social sciences. The research methodology is based on a systematic review of the literature, using 31 studies published in scientific journals. The study critically analyses publications related to triangulation, demonstrates various methods of applying triangulation in social sciences, and emphasises the advantages and limitations of its use. The theoretical contribution of the study lies in uncovering the essence of the triangulation approach and its relationship with qualitative and multi-method research. In addition, the empirical component of the study significantly improves the methodological aspect of social sciences, contributing to a proper understanding and application of the triangulation approach among researchers in this field

Keywords: triangulation; qualitative research; multi-method approach; social sciences; different sources

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INTRODUCTION

Many disciplines and sectors are now employing triangulation in their qualitative studies. This paper examines a wide range of disciplines that have adopted triangulation, including education, health, management, and the social sciences. Triangulation involves using multiple studies or sources in the examination to gain a deep understanding of the research problem or phenomenon being analysed (Begley, 1996). However, M. Oppermann's (2000) "Triangulation – a methodological discussion" describes how the basic concept of triangulation is often easily misunderstood, being seen as a simple approach to combining qualitative and quantitative data collection methods. Nevertheless, because there are no connections between these collection methods, this multi-methodological approach will only cross-validate the results to a limited extent (Oppermann, 2000). The term "triangulation" derives its name from its implied reliance on independent fixed points, observing the results, or authenticating the methods (McFee, 1992). G. McFee (1992), further exploring triangulation, specifically in educational research, stated that "triangulation across techniques creates fixed points at the cost of losing sight of the underlying issue or problem, whereas triangulation within a method produces a specific incident in return for the breakdown of fixed points".

V.A. Thurmond (2001) reviewed published literature and multi-method strategies from 1960, focusing primarily on triangulation, to conduct a study on "The point of triangulation", which sought to identify various types of triangulation strategies and determine when different types of triangulation should be used in research. The author discovered that triangulation is employed to enhance the capability to evaluate qualitative research findings by combining a minimum of two or more theoretical viewpoints, methodological approaches, data sources, investigators, or data analysis techniques. Further, triangulation helps to undermine, refute, or balance a single approach.

There are numerous misconceptions about the use of triangulation. M. Oppermann (2000) discussed triangulation as a research method and provided guidelines for its use in the social sciences. G. McFee (1992) explained triangulation between methods and within methods. This study demonstrates that triangulation between methods requires mutual validation, while triangulation within methods involves examining the same issue from different perspectives. According to V.A. Thurmond (2001), the use of triangulation does not support a flawed study; rather, it may enhance the study's understanding of the phenomenon. However, the researcher must justify why this strategy is employed. The study "Triangulation in social research: Qualitative and quantitative methods can really be mixed" reviewed empiricist, constructionist, and realist issues through triangulation, offering an intellectual

review of the debate over pluralism in methodology (Olsen, 2004).

E.P. Jack & A. Raturi (2006) outlined three reasons for emphasising triangulation in their study "Lessons learned from methodological triangulation in management research", which helps future researchers develop more comprehensive theories from a stronger standpoint. The researchers aimed to articulate a comprehensive framework using methodological triangulation during the development of their research strategy. They also sought to address the challenges encountered by researchers when employing methodological triangulation and to make a valuable contribution to management researchers by replicating prior studies.

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WHAT IS TRIANGULATION?

Triangulation was used in 1950 to alleviate potential biases from single methodology implementation in qualitative research. The term is derived from navigation to determine the point by using the angles between two known points (Heale & Forbes, 2013). Qualitative research uses multiple methods or data sources to develop a comprehensive understanding of phenomena. Merging information from different sources is also viewed as a strategy in qualitative research (Carter *et al.*, 2014). According to V.A. Thurmond (2001), triangulation derives its etymology from applying trigonometry to ascertain an unknown point or occasion by utilising the positions of two fixed points spaced apart by a known distance. J. Kimchi *et al.* (1991) define triangulation as using two or more investigators, data sources, methodologic techniques, and theoretical views in the same study. When two or more forms of data are employed in the same study, it is referred to as multiple triangulation (Thurmond, 2001).

R. Heale & D. Forbes (2013) also noted that qualitative data collection is done using more than two types of the same methodology. There are limitations when comparing findings from different perspectives when it comes to different methodologies, such as qualitative and quantitative. In the study "Research methods: Triangulation" conducted by V. Wilson (2014), he explained that, to gather rich data and confirm the research results, more than one approach is used to refer to triangulations. In dictionaries, triangulation is

usually defined as: (1) division (of an area) into triangles for surveying purposes; (2) measurement and mapping (of an area) by the use of triangles with a known base length and base angles (Oppermann, 2000).

The term triangulation uses multiple references to locate the exact position of an object. This was picked up from navigation and military strategy. However, when developing theory and deciding on interpretation, many management studies employ triangulation, which originated in the social sciences and psychology (Jack & Raturi, 2006). S.H. Briller *et al.* (2008), in their study on "Implementing a triangulation protocol in bereavement research: a methodological discussion", stated that: "The field of surveying, which employs multiple comparative steps to the precisely measure boundaries or areas, is where the concept of the triangulation originated". Although positivist researchers initially used triangulations to validate study findings, more recent discourse has expanded on the significance of different kinds of triangulations to attain more profound comprehensions of intricate subjects.

Apart from meeting all the requirements and ensuring that all measurements are correct, the critical part of triangulation is that they all have to be related to the question within the triangle (Oppermann, 2000). According to M. Oppermann (2000), Webb, Campbell, Schwartz, & Sechrest were the researchers who introduced the term triangulation into the social science discipline as a research approach. M. Oppermann (2000) stated that "social scientists have borrowed the term triangulation to help describe how the use of multiple approaches to a research question can enable the researcher to zero in on the answers or information sought".

TRIANGULATION IN QUALITATIVE STUDY

Because qualitative studies are prone to bias, using only one research method can result in data bias. Triangulation can be the primary reason for recognising the dataset. The bias can be varied, such as methodological or instrument bias, data bias, and investigator bias. When the data is biased, the results will also be biased, as the themes or categories will not be included or detected. There may be preconceived categories that will influence the results as well. When the data collection method is only open-ended or close-ended, sometimes participants may not disclose appropriate information depending on the sensitivity of the incident or question. The answers may not be open and true. The information provided may be inaccurate or not recalled correctly. If another method, such as observation, is used in the same study, it may give an exact picture of the nature of the study (Oppermann, 2000).

However, M. Oppermann (2000) argued that at least three measures were required to obtain an accurate result for the study. That being said, three is considered the standard procedure in surveying the origin and is

not derived from the "tri" of triangulation. When there is bisection in surveying, it prevents inaccuracies in the measuring instrument or investigator errors, which could lead to calculating the wrong point. Therefore, using a third measurement will ensure the accuracy of the first two measurements, resulting in an accurate final calculation.

Using more measures to investigate a problem through qualitative methods in the social sciences can lead to more confident results. Hence, triangulation should be provided with at least three methodologies. Results from a multi-method approach can provide new insights and offer a more comprehensive explanation of the research issues. Yet, a new perspective beyond the confines of individual methodologies will be gained through a multidimensional approach. Nevertheless, using multi-method approaches with multiple qualitative methods may make reproduction difficult (Oppermann, 2000).

TYPES OF TRIANGULATIONS

This study identified and discussed various triangulation methods based on existing journal publications selected for this study. These methods include data source triangulation, investigator triangulation, methodological triangulation, theoretical triangulation, and multiple triangulations. According to S.H. Briller *et al.* (2008), there are numerous types of triangulation, including methodological data and investigator triangulation types listed by G.A. Tobin & C.M. Begley (2004). N.K. Denzin (1978) discussed theoretical triangulation, J. Kimchi *et al.* (1991) examined the unit of analysis, V.J. Janesick (1994) explained interdisciplinary triangulation, C.M. Begley (1996) listed communication triangulation, R.L. Foster (1997) outlined conceptual triangulation, and G.A. Tobin & C.M. Begley (2010) discussed collaborative triangulation. All of these triangulation methods need to be compared with the data. However, the literature on research techniques is divided on the number and types of triangulations, their significance, and how they should be defined and integrated. As a result, this study focused primarily on classified types.

DATA SOURCES TRIANGULATION

According to E.P. Jack & A. Raturi (2006), the findings of this kind of study are enhanced by gathering data through various methods that span across time, space, and individuals. This approach involves including various events, times, locations, circumstances, and people in the research to obtain unique data or identify potential comparable patterns, thereby enhancing confidence in research findings (Thurmond, 2001). Furthermore, this form of triangulation also entails collecting data from different types of entities, including individuals, organisations, families, and communities, to gather diverse perspectives and validate the data (Carter *et*

al., 2014). V. Wilson (2014) referenced Flick's (2002) statement in his study, stating, "The first approach is to engage individuals and study groups, including local and temporal contexts, in the research on a purposeful and systematic basis".

Data triangulation, as described by M. Oppermann (2000), involves using the same methodology for different sets of data to either validate or falsify generalisable patterns identified in one data collection.

INVESTIGATOR TRIANGULATION

This form of triangulation involves multiple observers, coders, or data analysts. Providing information without collaboration lends significant credibility to the observation (Thurmond, 2001). Similarly, N. Carter *et al.* (2014) also noted that two or more researchers contribute to participating in one study, leading to multiple observations and conclusions. Consequently, findings from different perspectives add breadth to the phenomenon of interest. V. Wilson (2014) indicated, "Systematic evaluation of various researchers' effects on the topic and research findings". M. Oppermann, (2000); E.P. Jack & A. Raturi (2006) described investigator triangulation as the use of different backgrounds with the involvement of multiple investigators.

METHODOLOGIC TRIANGULATION

The term is interchangeably used for multimethod, mixed-method, or method triangulation (Thurmond, 2001). There are two types of methodological triangulation, namely "*within*" and "*between*" methods. V. Wilson (2014) also described that methodological triangulation has subtypes, as mentioned above. The "*Within*" method involves at least two data collection methods (Kimchi *et al.*, 1991). Survey questionnaires are used quantitatively, while observations, interviews, and focus groups are used qualitatively (Thurmond, 2001).

N. Carter *et al.* (2014) highlighted that many methods are used for data collection for the same phenomenon. This method also measures the same object of interest (Oppermann, 2000). According to E.P. Jack & A. Raturi (2006), multiple quantitative or qualitative data sources are used in a single study. In the study "Implementing a triangulation protocol in bereavement research: A methodological discussion", S.H. Briller *et al.* (2008) illustrated that methodological triangulation aids in achieving a broader understanding through insights into the data collection method. It was evident in this study that methodological triangulation impacts the research findings.

THEORETICAL TRIANGULATION

Theoretical triangulation, as described by T. Hopper & Z. Hoque (2006), involves examining the same dimension of a research problem while simultaneously considering aspects from multiple theoretical perspectives. Rather than imposing a specific theory on the data, this

approach develops theory from the current situation. Furthermore, theoretical triangulation involves examining the same dimension of a study problem using elements from various theoretical perspectives simultaneously. Although theorists refer to this as "theoretical pluralism", Z. Hoque *et al.* (2013) named it "theoretical triangulation". They demonstrated how triangulation can extend across numerous difficult theories by utilising neo-institutional sociology theories in conjunction with other theories. Moreover, they noted that to capture the multi-level nuances of a phenomenon through theoretical triangulation, researchers might need to collect data from various sources, such as historical records, in-person interviews, participant observations, observation of management meetings, experiments, and questionnaire surveys.

MULTIPLE TRIANGULATION

Although not explicitly stated in many studies where researchers referred to it, E.P. Jack & A. Raturi (2006) specifically state that the study was conducted in one situation in combination with multiple observers, theoretical perspectives, data sources, and methodologies.

HOW TRIANGULATION CAN BE APPLIED IN SOCIAL SCIENCE RESEARCH

In his paper, W. Olsen (2004) argues that triangulation is not for validation; instead, it supports the researcher to understand deeply. This broadened understanding can be gained individually or as part of a team. Pluralism and triangulation, on the other hand, do not bind them to sociology but rather support interdisciplinary research. W. Olsen (2004) elaborated on how individuals, governments, and academics can use mixed-methods and triangulation research to deepen and broaden their understanding of the real world. The potential position of the constructionist viewpoint was explained in the same study. If constructionism is understood as a set of assumptions about society, as associated with philosophy, it may be incompatible with realism.

However, the visibility depends on the glass one usually uses to see them. There is a distinct set of assumptions in realism philosophy and mixed-methods analysis with any structuralism viewpoint. In addition to transitive components, society also consists of lasting, intransitive, and resolutely immovable components (Olsen, 2004). In social science, triangulation has become a standard practice despite potential problems. The most common type of triangulation is likely methodological triangulation. (Wilson, 2014).

In social science, individual interviews are widely used in qualitative research. This allows participants to express their attitudes, beliefs, thoughts, and knowledge in certain research areas through correctly formulated questions. The experience of the participants is reflected in their responses. However, even the interviews may provide adequate data for social science studies,

assuming the meaning of the provided words in the interview may be problematic in the following ways:

- ◆ associational context (a common characteristic that brings the participants together),
- ◆ status context (positions of participants in local or societal status hierarchies),
- ◆ conversational context (flow of the discussion and types of discussion within the group),
- ◆ relational context (degree of prior acquaintance with participants) will also be influenced by the responses.

Therefore, triangulation in social science leads to understanding the participants' self-image and responses (Lambert & Loisele, 2008).

ADVANTAGES AND DISADVANTAGES OF USING TRIANGULATION

While there are numerous advantages to triangulating qualitative studies, there are also some disadvantages to this type of research. Both advantages and disadvantages are analysed as follows:

Strengthening trust in study results; imaginative and inventive understanding; unique discoveries; incorporating theories; challenging theories; enhancing awareness of the issue (Thurmond, 2001); broadening comprehension of the phenomenon of interest (Carter *et al.*, 2014); The type and volume of data generated for interpretation in data triangulations (Thurmond, 2001); Moreover, triangulation not only amplifies the results and enhances validity but also improves dependability by analysing the data, especially qualitative data, by multiple analysts. In addition to reducing potential bias, having multiple investigators with complementary but distinct skill sets also avoids the holistic fallacy, which is the mistaken belief that study participants' opinions represent those of non-participants (Thurmond, 2001).

It is advisable to vary the data collection techniques and methodologies used for methodological triangulation within the same paradigm, as this can reveal important information or distinct differences that might have been missed if a single strategy or data collection methodology had been employed in the study. Data can improve comprehension by highlighting anomalies or exceptional individual examples. It can also strengthen the ability to exclude competing theories for observed change and lessen scepticism regarding findings connected to the change (Thurmond, 2001). Considering several theoretical stances or hypotheses can reduce the number of possible explanations for a phenomenon and offer a more thorough, comprehensive examination of the data. Competing hypotheses also put researchers under pressure to see past the obvious answers, delay accepting explanations that seem plausible too soon, and boost confidence in the conceptual or construct development for theories (Thurmond, 2001); combining distinct viewpoints, analytical techniques, and evidence in different ways. Furthermore, compared to a single

approach, such integration can produce more substantial research findings (Briller *et al.*, 2008).

DISADVANTAGES OF TRIANGULATION

The comparison of single strategies is time-consuming and ineffective in handling large amounts of data. It may also be influenced by the investigator's biases, leading to possible disharmony, theoretical conflicts, and a lack of awareness of triangulation strategies (Thurmond, 2001). Ensuring data dependability and credibility can be challenging because researchers need to employ a variety of strategies. There is a belief that more data is always better, which overshadows concerns about managing different types of data. Analysing focus group discussions and individual interviews may be difficult.

Ad-hoc triangulation may jeopardise the weight of the data, especially when the number of participants is equal (Carter *et al.*, 2014). It can, on the other hand, be a significant issue when interpreting and fitting qualitative data (Thurmond, 2001). Counterbalancing the effects of bias by each researcher is challenging (Thurmond, 2001). Measuring and validating bias is challenging (Kimchi *et al.*, 1991). Researchers may firmly uphold their epistemology, disregarding the advantages of alternative epistemologies (Thurmond, 2001). Conflicts regarding research design may arise from differing epistemological stances, the higher costs of multimethod research, a lack of investigator experience in either method, challenges in integrating narrative and numerical data to comprehend the phenomenon, and editors' hesitation to publish multimethod works. According to V.A. Thurmond (2001), using multiple theories to support a single study may be flawed and not epistemologically sound. Findings do not become more valid and credible just because they are supported by similar theories, which may have relevant constructs and concepts. If opposing theories are chosen for triangulation, interpreting the concepts may be challenging due to their poor differentiation and overlap with the competing theories.

ISSUES AND LINKAGE IN QUALITATIVE RESEARCH

Individual interviews and focused group discussions, which can vary from structured and regulated to unstructured and fluid, can yield valuable information on human experiences and perspectives, as indicated by N. Carter *et al.* (2014). Independent interviews allow respondents to react naturally and flexibly. However, transcription is time-consuming and costly. On the other hand, since all participants can hear each other, focus group conversations may be influenced and interrupted by them. N. Carter *et al.* (2014) describe interviews as a "dynamic and participatory interchange among participants", while focus group discussions involve "many tales and different experiences". A major criticism of

triangulation in the social sciences is that it is often used as a multi-method or multi-theory approach rather than for data and/or investigator triangulation. It is important to distinguish this difference. M. Oppermann (2000) agrees with the objections raised about using the term triangulation to refer to a multi-method approach. Since achieving the “truth” is unattainable, a multi-method approach should be clearly described as such. The addition and depth of knowledge on a particular topic are sources of strength. If people insist on victimisation, the term triangulation should only be used for information triangulation and possibly investigator triangulation, as it is in information triangulation that this author finds its greatest applicability and purest similarity to the term triangulation’s roots. Consequently, all measures would be of the same kind and supported by the same ontology and philosophy (Oppermann, 2000).

According to E.P. Jack & A. Raturi (2006), triangulation has limitations in every research technique. There are two types of limitations: method-specific problems and assumption-related problems. Data collected from two sources in a study may not carry comparable weight, as stated by R. Heale & D. Forbes (2013). Therefore, when presenting the results together, researchers must be cautious in interpreting the data gathering discrepancies. Despite this critique, R. Heale & D. Forbes (2013) argue that triangulation enhances the broad understanding of research. S.D. Lambert & C.G. Loiselle (2008) addressed the primary challenge of integrating two methods within the same approach in their study “Combining individual interviews and focus groups to improve data richness”. By comparing overlapping and complementary results revealed through side-by-side and non-hierarchical comparisons of data sets, they aimed to achieve a more comprehensive and diverse understanding of patterns. Researchers assume that by using a variety of qualitative techniques, they will be able to improve the analysis of philosophy. However, if the researchers lack experience, the reliability of the results may be compromised (Lambert & Loiselle, 2008).

MULTI-METHOD QUALITATIVE STUDY AND TRIANGULATION

The qualitative approach allows for “deep, detailed accounts” of changing conditions, making it more suitable for this study (Creswell, 2014). The collection of qualitative data typically depends on the interpretation. Due to the large volume of qualitative material often gathered for this study, the data requires multiple explanations, and the author derives themes from a variety of data sources (Johnson *et al.*, 2017).

Using two or more research approaches is known as a multi-method design. Each project is performed meticulously and comprehensively, and the outcomes are combined to create a comprehensive whole

(Esteves & Pastor, 2003). Several study fields have used the multi-method approach to enhance the research process and results. “Multiple methods are used in a research programme when a series of projects are inter-related within a broad topic and designed to solve an overall research problem” (Morse, 2003). The primary advantages of multi-method research include expansion – widening the scope of the study to include contextual aspects of the situation – creativity, which involves finding novel or paradoxical factors that spur further work, and triangulation, which aims to validate data and results by combining a variety of data sources, methods, or observers (Esteves & Pastor, 2003). A more comprehensive image of the unit may be obtained in a single study by gathering various types of data from various sources using various approaches (Esteves & Pastor, 2003).

One of the modern uses for research is multi-method, which has several advantages. Of these five purposes, triangulation is the most widely recognised. It speaks of the coming together or cooperation of data collection and the analysis concerning the same phenomenon. The precise method or format used for collecting and/or interpreting data can differ. Researchers might use investigator triangulation, theoretical triangulation, data triangulation, or methodological triangulation, for instance. The convergence or collaboration of the data regarding the same occurrence is referred to as data triangulation. When two or more investigators work together to collect and evaluate the data, this is referred to as investigator triangulation. Using many theoretical frameworks to inform the conceptualisations of research and the interpretation of results is known as theoretical triangulation. The term “methodological triangulation” describes the practice of collecting data using multiple methods (Morse, 2003). By focusing on the various aspects of a phenomenon rather than only the overlapping or converging data, complementing goes beyond triangulation and offers a wider range of insights and viewpoints (Martha *et al.*, 2007). Development and Expansions: This approach integrates or applies the results of one way to investigate a phenomenon to create a new approach. For example, focus groups can be used to gather input on a questionnaire after it has been piloted (Morse, 2003). Starting: Inception involves a deliberate exploration of novel perspectives on the topic of interest. Expansion: According to D. Martha *et al.* (2007), expansion is the general enlargement of the scope, breadth, or range of a study.

When using mono-qualitative research, the validity and reliability are highly problematic. As a result, this study began to use multi-method studies to validate it. Initially, primary studies are employed, with secondary qualitative approaches selected for their suitability in addressing the exploratory nature and research questions. Multiple methods and designs were adopted for this study to maximise the credibility, dependability, and confirmability of the findings. Qualitative data collection

is usually dependent on interpretation. This means that the data requires several explanations (Morse, 2003). This is because this study often collects enormous amounts of qualitative evidence. A variety of data sources are consulted to identify themes. Initially, the researchers chose this method to investigate dust explosions in their industries (Minger, 2001). Once the approach is defined, the research strategy should be determined.

The first theory examines the importance of the idea of theoretical motion. The theoretical approach can be deductive for testing or inductive for discovery. The second theory states that the premises of both processes are valid, and that one can determine whether to operate inductively or deductively at any given time. According to J.M. Morse (2003), there are two types of multimethod designs: sequential and simultaneous. The researcher employed a simultaneous and sequential qualitative research approach to conducting the qualitative study. Qualitative-to-qualitative refers to a project driven by qualitative research followed by another project led by qualitative research, both conducted concurrently. The multi-method approach, according to A.D. Hunter & J. Brewer (2002), "is a tool for overcoming the limitations and disadvantages of each procedure by deliberately combining different approaches within the same investigation". J. Mingers (2001) provides a framework for a multi-method modelling methodology to map research processes. Two primary characteristics of this multi-method research technique are its multidimensionality and the various actions that must be performed at each review stage. In this instance, triangulation is consistent with several approaches and greatly enhances researchers' capacity to pinpoint complex problems in a practical setting.

VALIDITY AND RELIABILITY

Researchers were able to explore in-depth qualitative findings, internal people's views, external people's views, and hermeneutic views through the use of a triangulation approach in this study's multi-method. Furthermore, researchers in qualitative studies suggest that bringing a group together is inevitably outside the typical "norms". Answers are limited to the questions that are posed (Maxwell, 2009). P.C. Meijer *et al.* (2002) concluded in their study that multi-method triangulation is a worthwhile procedure to enhance the internal validity of qualitative studies on complex topics. Data source triangulation is when two different, independent data sources are used, which increases the validity and reliability of the study.

A qualitative study was conducted over several days of the week, months, and locations. Participant observations occurred in areas designated for meeting individuals and the waiting room where CEOs spend most of their time. Topical oral history sessions were held in a private executive office, while in-depth interviews took place in a separate location, a conference

room conducive to sound interaction. The setting for in-depth interviews provided a more meaningful space for conversation and relaxation, whereas the setting for thematic oral history, which was more constrained, offered a more focused and attentive listening environment conducive to the in-depth exploration of personal matters (Santos *et al.*, 2020). This environmental triangulation multi-method study enhances its validity and reliability.

CONCLUSIONS

In summary, the use of triangulation has evolved from an activity aimed at confirming and complementing results to the integration of numerous viewpoints and now to various types of triangulations to create new and richer analyses. While most of the existing literature outlines different types of triangulation and their operational definitions, few have provided actual protocols based on case studies that clearly define specific procedures and their outcomes.

This triangulation study involves multiple data collection sources, including combined literature sources, documents, in-depth interviews, and a focus group, to enhance its validity. This paper encourages future researchers to use multiple sources in management-related research to increase validity and identify problems with valid evidence from different perspectives. To date, almost all prominent research in management and social sciences has been conducted from a positivist standpoint (Al-Kandi *et al.*, 2013). The contribution of this study stems from the qualitative stance it has taken to understand the phenomenon from the perspective of different data sources.

In qualitative research, data triangulation using focus groups and in-depth individual interviews may result in a deeper understanding of the phenomena of interest. Restricting data collection to one of the two approaches may lead to the exclusion of eligible individuals and a narrowing of the scope of findings by obtaining only a partial understanding of the phenomena of interest. For a better understanding of the implications of this approach and to further explore the differences between focus groups and in-depth individual interview data, additional investigation into the potential methodological issues associated with the combination of focus groups and in-depth individual interview data is required.

However, many inexperienced researchers "use triangulation" while explaining or justifying their choice, as if they assume that just using this method would miraculously eliminate all issues of bias, inaccuracy, and invalidity. This is not the case because triangulation as a research technique must be selected intentionally and for the right reasons, with an appropriate explanation of the reasoning, planning, and execution of the approach provided. As M.B. Miles & A.M. Huberman (1984) state, triangulation is a state of mind. According to them, "If

one seeks to obtain and double-check results, utilising various sources and modalities of information, the validation process will be essentially integrated into the data-gathering effort, and nothing more has to be done than report on one's methods".

The key element here is the requirement to "report on one's methods", which is frequently overlooked by inexperienced researchers. Future researchers must also strive to incorporate several kinds of triangulation in their investigations rather than simply technique triangulation, as is often the case. Most importantly, it is crucial to remember that the primary purpose of the study is to expand current knowledge. What better approach to achieve this than to use a technique that serves two purposes: confirming results and ensuring data completeness (Begley, 1996).

Previous findings have primarily relied on a single data source to investigate the factors in a qualitative study. A mono-method qualitative study can consciously or unconsciously influence the selection of a sample

that favours an anticipated outcome, which can be a major disadvantage of qualitative research. One of the biggest disadvantages of qualitative studies is self-selection bias. It may arise when companies ask staff to volunteer their views (Maxwell, 2009). The question of how these issues in qualitative studies can be overcome now arises. This study is one of the big solutions to increase credibility and validity in research. The solution is triangulation. As a result, it is recommended that researchers use triangulation in qualitative studies to reduce bias and increase the credibility of the findings. For researchers planning to conduct multi-method studies, triangulation provides rich themes, data analysis, and findings that intersect with both methods.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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Поза методологією: теоретичні основи тріангуляції в якісних та багатометодних дослідженнях: огляд літератури

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Анотація. Науковий дослід розглядає концепцію «тріангуляційного підходу» у методології соціальних наукових досліджень. Тріангуляція є інноваційним методом, зокрема в контексті якісних та багатометодних досліджень. Вчені в галузі соціальних наук нещодавно виявили активний інтерес до застосування тріангуляційного підходу, особливо для здійснення глибоких досліджень, використовуючи множинні запитання. Однак цей метод стикається із критикою та непорозумінням серед соціальних дослідників щодо його сутності, методики застосування та достовірності отриманих результатів. Отже, у даній статті детально проаналізовано сутність тріангуляції, розкрито різновиди цього підходу та його можливості в соціальних науках. Методологія дослідження базується на систематичному огляді літератури, в рамках якого використано 31 статтю, опубліковану в наукових журналах. У статті критично проаналізовано публікації, пов'язані із тріангуляцією, розкрито різноманітні методи застосування тріангуляції у соціальних науках та наголошено на перевагах та обмеженнях при його використанні. Теоретичний внесок статті полягає в розкритті сутності тріангуляційного підходу та його взаємозв'язку з якісними та багатометодними дослідженнями. Крім того, емпірична компонента дослідження істотно вдосконалює методологічний аспект соціальних наук, сприяючи належному розумінню та застосуванню тріангуляційного підходу серед вчених у даній галузі

Ключові слова: тріангуляція; якісне дослідження; багатометодний підхід; соціальні науки; різні джерела