

**THE RELEVANCE OF MIXED METHODS RESEARCH APPROACH  
(MMRA) IN MANAGEMENT SCIENCES RESEARCH.**

**SULEIMAN Abdulwasiu Alade<sup>1</sup> (PhD), OLADELE, Waheed Olatunji<sup>2</sup> (PhD)  
& LAWAL. Yusuf Adedavo<sup>3</sup> (PhD)**

**ABSTRACT**

*This study examines the comparative analysis of qualitative, quantitative, and mixed methods research (MMR) approaches, with a focus on their roles in management and social sciences research. The study emphasizes that MMR, which combines qualitative and quantitative data, offers a more holistic understanding of complex research problems than either method alone. By analysing the strengths and limitations of each approach, this research provides insights into how MMR can enhance research validity and generalizability. The study discusses the theoretical foundations of MMR, including pragmatism, interpretivism, and positivism, and how these philosophical perspectives inform the integration of qualitative and quantitative data. Empirical studies across various domains, such as public policy, healthcare, and education, are reviewed to demonstrate the practical applications and challenges of MMR. The study finds that MMR is particularly useful for addressing multifaceted issues and provides richer insights than traditional single-method approaches. However, challenges related to data integration and methodological complexity remain significant. The study concludes by recommending further research to explore the nuances of MMR, investigate industry-specific factors that influence its effectiveness, and understand the dynamics between qualitative, quantitative, and mixed-methods research in diverse contexts. This study contributes to the growing body of knowledge on MMR, highlighting its potential to transform research practices in management and social sciences by fostering more comprehensive and context-sensitive analyses.*

**Author's Affiliation:**

Department of Business  
Administration, College of  
Management Sciences, Bells  
University of Technology,  
Nigeria.

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**Corresponding Mail:**

[waheed.oladele@lasu.edu.ng](mailto:waheed.oladele@lasu.edu.ng)

, +2347060923002

## 1.0 Introduction

The practice of research is constantly evolving in response to the increasing complexity of contemporary research questions. One of the most versatile and widely adopted tools in this dynamic environment is mixed methods research (MMR), which integrates both qualitative and quantitative approaches (Creswell & Poth, 2021). In today's world, where data-driven insights are critical to achieving a competitive advantage, organizations are increasingly relying on advanced analytics to navigate the challenges posed by big data (Dube et al., 2022). MMR brings together the strengths of both numerical and narrative data, offering a more holistic understanding of research problems and enhancing the validity of conclusions (Gupta & Mohan, 2023; Marshall & Rossman, 2022).

A central element of successful mixed methods research is understanding the research paradigms that inform methodological choices. For emerging researchers, becoming familiar with these paradigms is essential to effectively address the complex social problems encountered in contemporary research. Familiarity with available research designs, particularly mixed methods, enables researchers to select the most suitable methodology for their study and stay on track throughout the research process (Saraswata & Sagun, 2021; Mertens, 2021). This article provides a comprehensive overview of mixed methods research, its various designs, applications, and the key factors to consider when selecting the most appropriate methodology (Schoonenboom & Johnson, 2022).

The philosophical foundations of MMR, such as pragmatism and triangulation, play a pivotal role in guiding researchers in their approach to data collection and analysis. Pragmatism, which serves as the philosophical backbone of MMR, advocates for a practical, problem-solving approach that allows researchers to select methods based on the specific needs of the research questions rather than adhering to a single research paradigm (Mertens, 2021). Triangulation, a concept borrowed from navigation, involves combining multiple data sources to enhance the credibility and depth of research findings. By integrating qualitative and quantitative data, researchers gain a more nuanced understanding of the phenomenon under study and enhance the reliability of their conclusions (Fetters et al., 2021). This approach has proven to be especially valuable in fields like the social sciences and management, where multifaceted issues require both depth and breadth of insight (Leavy, 2022; Mertens, 2021).

In the realm of MMR, the principle of complementarity guides the integration of qualitative and quantitative data. Qualitative data provide rich context and explanations for the "why"

behind observed phenomena, while quantitative data highlight patterns and statistical relationships. Together, these approaches allow for a fuller and more nuanced understanding of the research topic. MMR offers a variety of designs, such as convergent, sequential, and embedded designs, that enable researchers to tailor their methodology to the specific needs of their study (Vivek & Nanthagopan, 2021; Ponce & Atkinson, 2022).

The growing recognition of MMR's ability to overcome the limitations of relying on a single research method underscores its value in contemporary research. By combining the strengths of both qualitative and quantitative approaches, researchers can generate more reliable and comprehensive findings. As the demand for nuanced insights into complex and multidimensional issues continues to rise, the use of mixed methods research is expected to expand. Researchers who can effectively navigate these methods are well-positioned to answer intricate research questions and contribute valuable insights to their respective fields (Bamakrishan & Sathiyakuma, 2023; Teddlie & Tashakkori, 2021).

## **1.2 Statement of the Problem**

As research questions become increasingly complex in the fields of management and social sciences, traditional methodological approaches, whether qualitative or quantitative, often fall short in providing a complete understanding of multifaceted phenomena. Mixed Methods Research (MMR), which integrates both qualitative and quantitative data, has emerged as a powerful tool to address these complexities. Despite its growing adoption, MMR faces significant challenges in practice, particularly in terms of integration and coherence between the two types of data. While quantitative methods, such as statistical surveys and experiments, provide breadth through numerical analysis, they often fail to capture the contextual depth and nuance of social phenomena (Teddlie & Tashakkori, 2021). Conversely, qualitative research offers rich insights into the "why" behind behaviors and social dynamics but is often criticized for its lack of generalizability and subjectivity (Morse et al., 2016). These limitations have fueled an ongoing debate within the academic community about the relative merits of qualitative versus quantitative approaches, particularly in management research (Venkatesh et al., 2022).

This study addresses these ongoing challenges by examining how MMR can effectively leverage the complementary strengths of both qualitative and quantitative methodologies to provide more holistic and reliable insights into complex research questions. However, the process of combining these two methodologies poses its own set of challenges. One of the key

issues lies in integrating qualitative and quantitative data in a way that enhances their value without sacrificing the integrity of either. Despite its theoretical appeal, the practical application of MMR often faces barriers such as methodological confusion, lack of methodological clarity, and difficulty in synthesizing findings across different types of data (Fetters et al., 2013; Teddlie & Tashakkori, 2021). This research aims to investigate how these challenges can be overcome and how MMR can contribute to more nuanced, rigorous, and comprehensive research, particularly within the domains of management and social sciences.

### **1.3 Objectives of the study**

The study aims to assess the relevance of the mixed methods research approach (MMRA) in management sciences research. The specific objectives of the study are as follows:

- i. To examine the role and value of mixed methods research in management science studies, particularly in addressing complex research problems and enhancing research outcomes.
- ii. To evaluate the advantages and limitations of using mixed methods research, identifying both the strengths and challenges of combining qualitative and quantitative data in management sciences.
- iii. To provide guidance on effectively implementing mixed methods research designs in management sciences, offering strategies to overcome challenges and integrate qualitative and quantitative data.

### **2.0 Literature Review**

This literature review explores the theoretical foundations of Mixed Methods Research (MMR) and its integration of qualitative and quantitative approaches. MMR offers a comprehensive framework for investigating complex phenomena, particularly in management sciences, by blending the strengths of both qualitative and quantitative data. By incorporating multiple data types, MMR enables researchers to draw on the strengths of both approaches, providing a richer and more nuanced understanding of research questions (Creswell & Creswell, 2018; Johnson & Onwuegbuzie, 2004). As the demands for more robust and comprehensive research grow, MMR has become a valuable methodology in understanding multifaceted phenomena in management and social sciences.

## 2.1 Mixed Methods Research

Mixed Methods Research (MMR) is an integrated approach that combines qualitative and quantitative research within a single study design. The primary strength of MMR lies in its ability to offer both breadth and depth in exploring research problems. Unlike traditional methods, which may focus on either numerical data or narrative data, MMR allows researchers to triangulate results from different sources, leading to a more comprehensive understanding of the research topic (Creswell, 2009; Fetters et al., 2013). MMR can be conducted through various designs, including sequential, concurrent, and transformative approaches, each serving different purposes depending on the research objectives and the nature of the data (Creswell & Plano Clark, 2011).

The sequential design typically involves the researcher collecting data in two distinct phases, often starting with qualitative data collection to explore the research topic and then following up with quantitative data to generalize the findings. Alternatively, the concurrent design involves collecting qualitative and quantitative data simultaneously, allowing for a direct comparison of the results. The transformative design focuses on integrating qualitative and quantitative data with a specific emphasis on theory-building, often employing a global or theory-driven approach to understand complex phenomena (Creswell, 2009; Greene, 2018).

MMR is increasingly recognized for its ability to overcome the limitations of single-method studies. While qualitative research provides insights into the "why" behind observed behaviors, its subjective and context-specific nature can limit generalizability. On the other hand, quantitative research, with its emphasis on numerical data and statistical analysis, excels at identifying patterns and generalizing findings across larger populations but often overlooks the deeper meanings and experiences behind these patterns (Teddlie & Tashakkori, 2009; Venkatesh et al., 2016). By combining both approaches, MMR allows researchers to benefit from the strengths of each while mitigating the weaknesses inherent in relying solely on one method (Johnson & Onwuegbuzie, 2004).

## 2.2 Qualitative Data

Qualitative data is fundamental to understanding the "why" behind observed phenomena. This type of data is descriptive, non-numerical, and aims to capture the depth and complexity of human experiences, behaviors, and social contexts. Qualitative research methods—such as in-depth interviews, focus group discussions, and ethnographic observations—enable researchers to explore meanings, emotions, and subjective experiences that cannot be easily quantified

(Morse et al., 2016; Denzin & Lincoln, 2018). Theoretical perspectives such as phenomenology, constructivism, and post-positivism have significantly shaped qualitative research, highlighting the importance of context, interpretation, and understanding in the study of social phenomena (Schwandt, 2001).

One of the key features of qualitative research is its naturalistic approach. Unlike quantitative research, which often takes place in controlled environments, qualitative research examines phenomena as they unfold in real-world settings, allowing for a more holistic and contextual understanding (Leedy & Ormrod, 2010). This approach is particularly valuable in studying complex social processes, where human motivations, interactions, and cultural contexts are crucial to understanding the phenomena under investigation.

### **2.3 Quantitative Data**

In contrast to qualitative data, quantitative data is numerical and provides answers to the "what" and "how much" questions. This type of data is used to measure variables and identify patterns, relationships, and trends across larger populations. Quantitative research is essential for testing hypotheses, evaluating interventions, and generalizing findings to broader contexts. Methods such as surveys with closed-ended questions, standardized tests, and physiological measurements are commonly used to collect quantitative data (Teddlie & Yu, 2017; Creswell & Creswell, 2018).

Quantitative research can be classified into descriptive and experimental designs. Descriptive research focuses on identifying relationships between variables, while experimental research aims to establish causal connections. In experimental designs, large sample sizes are often used to ensure the reliability and validity of findings, while random sampling and control groups help minimize bias and enhance the generalizability of the results (Hopkins, 2008; Creswell & Creswell, 2018). The true power of quantitative data lies in its ability to be subjected to rigorous statistical analysis, providing robust and generalizable findings that contribute to understanding complex phenomena across populations.

### **2.4 Comparison of Qualitative, Quantitative, and Mixed Methods**

Table 1 presents a comparison of qualitative, quantitative, and mixed methods research in the context of management research. The table highlights key differences across several dimensions, including overall aim, sample size, data collection techniques, and data analysis methods. MMR stands out for its flexibility and ability to offer both depth and breadth in addressing complex research problems. While qualitative methods provide detailed insights

into context and meaning, quantitative methods allow for generalization and pattern identification. By integrating both approaches, MMR offers a more robust and comprehensive strategy for tackling multifaceted research questions in the management sciences (Greene, 2018; Creswell & Plano Clark, 2011).

*Table 1: Comparison of Qualitative, Quantitative, and Mixed Methods in Management Research*

	Issue	Qualitative methods	Quantitative methods	Mixed methods
1	Overall aim	Understanding and explanation of social phenomena	Generalization and Confirmation	Aims both explanation and Generalization
2	Sample size	Small	Large	Both small and large
3	Amount of data	Large amounts of textual raw data	A relatively small amount of numerical data	Both large and small amounts of data
4	Relationship with respondents	Close one-to-one relationship	Mostly no direct relationship	Close one-to-one relationships with some but not with all respondents
5	Frequently used data collection techniques	Semi-structured interviews, easy but costly, and time-consuming	Large-scale surveys, low response rates, less costly, and less time-consuming	Combines methods based on objectives, more costly, and time-consuming than the other two methods
6	Frequently used data analysis techniques	Thematic content analysis, tedious and time-consuming	Statistical analysis using computer-aided programmes, relatively simple and quick	Combines methods from qualitative and quantitative approaches, takes a longer time, and costs more
7	Flexibility and standardization	Flexible	Less flexible than qualitative analysis	More flexible than both
8	Research process and data quality	Meticulous record keeping adds value to the quality of the process and data	Compromises the quality of data for standardization	The quality of the process and data is considered better than the other two methods
9	Interpretation of Results	A lot of interpretation is required	Interpretation is concise due to the use of statistics	Interpretation is harder and longer because of the use of both qualitative and

				quantitative methods
10	Generalizability	Generalizability is not an objective	Highly generalizable	Generalizability is stronger than in any of the other two methods

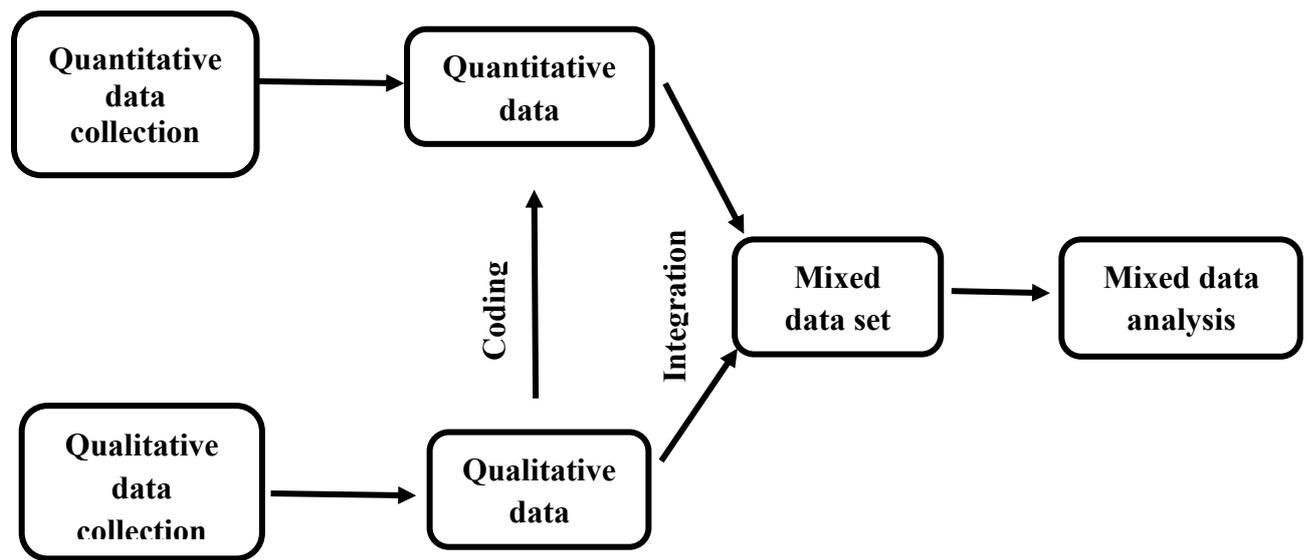
*Source: Researchers (2025)*

## 2.5 Conceptual Framework

The philosophy of pragmatism underpins the mixed methods research approach. Pragmatists assert that research methods should be selected based on their ability to address specific research questions and practical goals rather than adhering to a particular methodological paradigm (Teddlie & Yu, 2017). Triangulation and complementarity are key concepts within MMR that enhance its ability to address complex phenomena. Triangulation involves the convergence of evidence from multiple data sources, while complementarity emphasizes the synergy between qualitative and quantitative data, which together offer a more comprehensive understanding (Morse et al., 2016; Shankar et al., 2018).

Mixed methods research is particularly valuable when exploring the interactions and complexities inherent in management phenomena. For example, combining quantitative data on employee performance with qualitative data from interviews can provide a more nuanced understanding of the factors that influence organizational success (Fetters et al., 2013). Despite its advantages, the integration of qualitative and quantitative data presents challenges, particularly in ensuring the coherence and integration of findings across both data types

## Conceptual Framework



**Figure 1: Conceptual Framework**

*Source: Researchers (2025)*

### 3.0 Theoretical Review

The theoretical underpinnings of mixed methods research (MMR) draw on a confluence of philosophical perspectives that inform the selection and integration of research methods. These philosophical traditions provide the foundation for understanding how mixed methods research transcends the limitations of both qualitative and quantitative approaches. This section discusses the core theoretical foundations of MMR and critically examines the theoretical perspectives that guide its application in the social sciences.

#### 3.1 Pragmatism and Mixed Methods Research

At the heart of mixed methods research lies pragmatism, a philosophical tradition that emphasizes practical outcomes and the utility of research. Pragmatism holds that research should be guided by the research questions and the practical goals of the study, rather than adhering to a single methodological paradigm (Teddlie & Yu, 2017). Pragmatists argue that the integration of both qualitative and quantitative data allows researchers to explore complex phenomena from multiple perspectives, offering a more comprehensive understanding of the research topic (Greene, 2018). In the context of MMR, pragmatism supports the flexibility and adaptation of methods to best suit the research objectives, making it the dominant philosophy guiding MMR (Creswell & Plano Clark, 2011).

### **3.2 Interpretivism in Mixed Methods Research**

Interpretivism is another key theoretical foundation that influences mixed methods research. This perspective emphasizes the importance of understanding social phenomena from the perspective of participants, focusing on meanings, contexts, and experiences (Schwandt, 2001). In the context of MMR, interpretivism is particularly relevant when qualitative data is used to explore the "why" behind observed behaviours. Interpretivist frameworks allow researchers to understand the subjective experiences of participants and capture the depth of social interactions and meanings (Creswell & Creswell, 2018). When combined with quantitative data, interpretivist perspectives help contextualize numerical findings, providing richer insights into the research question (Shankar et al., 2018).

### **3.3 Positivism and Mixed Methods Research**

In contrast to interpretivism, positivism is grounded in the belief that social phenomena can be studied objectively, using quantitative methods to measure variables and test hypotheses (Bryman, 2016). Positivist frameworks are aligned with quantitative research designs, which prioritize objectivity, reliability, and generalizability. However, in mixed methods research, positivist approaches are integrated with qualitative data to provide a more comprehensive understanding of complex research problems. While positivism emphasizes statistical analysis and generalizable results, its integration with qualitative data allows for the exploration of underlying meanings and contextual factors that may not be captured by quantitative measures alone (Creswell & Plano Clark, 2011).

### **3.4 Theoretical Pluralism in Mixed Methods Research**

A key feature of mixed methods research is its theoretical pluralism, which allows researchers to draw from multiple philosophical perspectives as needed. This flexibility allows for the integration of pragmatism, interpretivism, and positivism within a single study, depending on the nature of the research questions and the specific goals of the study (Creswell & Plano Clark, 2011). This pluralistic approach enables researchers to address research questions from multiple angles, providing a more holistic and comprehensive understanding of the phenomena under investigation.

### **3.5 Critical Mixed Methods Research**

In addition to the foundational philosophies of pragmatism, interpretivism, and positivism, an emerging theoretical approach within mixed methods research is critical mixed methods.

Critical mixed methods integrate critical theory with the MMR framework to explore issues of power, social justice, and inequality (Creswell & Creswell, 2018). This approach seeks to challenge dominant narratives and provide a platform for marginalized voices, addressing issues of social justice through the combination of qualitative and quantitative data. For example, a critical mixed methods study could explore the racial disparities in school discipline by combining quantitative data on disciplinary actions with qualitative data from interviews with students and teachers, offering both statistical evidence and personal narratives to understand the root causes of these disparities.

#### **4.0 Empirical Review**

This section reviews recent studies that apply Mixed Methods Research (MMR) in various domains, highlighting their findings and contributions to the field. The review synthesizes both the advantages and challenges of MMR as reported in the literature, providing insight into its application and effectiveness.

Vives (2023) applied critical mixed methods in several domains to assess the effectiveness of MMR in answering complex research questions. The study's findings indicate that while MMR is valuable for addressing difficult questions in fields such as public policy, health, psychology, and education, it is not always the most rigorous approach and can be time-consuming. Despite these drawbacks, Vives (2023) emphasized that MMR is an essential strategy for exploring multifaceted research questions where a single-method approach falls short.

Dawadi et al. (2021) conducted a comprehensive review of the types, challenges, and critiques of mixed-method research. The study highlighted that MMR provides a complementary strategy, integrating post-positivist and interpretivist frameworks. The findings revealed that MMR helps to overcome the limitations of traditional qualitative and quantitative methods but also emphasized the challenges in integrating both data types. The study concluded that while MMR holds great potential, researchers must carefully consider the strengths and limitations of both approaches.

Inbal et al. (2023) employed a matched mixed-methods design to convert qualitative data into quantitative values, showcasing how qualitative insights can be quantified for statistical analysis. The study concluded that MMR offers significant methodological advantages, especially in providing a holistic view of the research problem. However, the study also found that satisfaction scores related to medical staff care showed no significant differences when combining qualitative and quantitative data.

In the field of government and political science, Stylianos et al. (2022) used a hybrid mixed-method strategy to address the limitations of both quantitative and qualitative research. The study employed the triangulation approach, combining qualitative interviews with quantitative surveys. The findings highlighted the importance of MMR in addressing contemporary issues in public policy and governance and underscored its value in providing a more nuanced understanding of complex political phenomena.

Fabregues et al. (2021) examined critical perspectives on MMR by conducting a secondary analysis of semi-structured interviews with 42 researchers. The study found that researchers' allegiances to different methodological communities lead to varying views on fundamental issues in MMR. The authors suggested that despite these differences, effective collaboration could be achieved by considering the divergent perspectives of researchers.

Nick & Martin (2023) explored the theoretical underpinnings and practical applications of both quantitative and qualitative methodologies in a range of subject areas. The study revealed that while both approaches have inherent differences, they share interconnectedness in their ability to answer research questions when applied appropriately to specific contexts. The research demonstrated that MMR is more beneficial when the methods are well-suited to the research context and objectives.

Table 2: Summary of Empirical Review

YEAR	AUTHOR(S)	STUDY	ANALYSIS	RESULT	REMARKS
2023	Vivek Chandrakumar &	Review of mixed-method research	Application critiques	MMR is beneficial but time-consuming	The review corroborates existing studies on the utility of MMR for solving complex research questions.
2023	Inbal et al.	Converting qualitative data into quantitative values	Matched mixed-method design	No significant difference in satisfaction scores	The study showed that qualitative data converted to quantitative values may not always reveal differences.
2023	Judith	Integration of quantitative and qualitative data	Mixed-method integration	The complex structure of MMR is now transparent	The study reveals that MMR adds clarity to the complexity of combining both methods.
2022	Stylianios Dimitrios &	Mixed-method research in political science	Combining quantitative qualitative approaches	Provides insights into public policy issues	MMR is not a perfect strategy but adds value to understanding political phenomena.
2022	Chali, Eshete, & Debela	Review of qualitative, quantitative, and mixed methods	Practical applications	Helps researchers in MMR and research design	MMR can be too complex for novice researchers.
2021	Dawadi, Shresthas & Giri	Review of mixed-method research: Discussion, types, challenges	Post-positivism and interpretivism frameworks	Integrates qualitative and quantitative data effectively	The review highlights the lack of guidance for novice researchers in applying MMR.
2021	Sergi et al.	Critical stance on mixed-method research	Conceptualization of MMR	Divergent views on foundational	Encourages collaboration among researchers with different

YEAR	AUTHOR(S)	STUDY	ANALYSIS	RESULT	REMARKS
				issues in MMR	in methodological approaches.
2020	Mark Saunders	Key issues in mixed-method research	Multi-method choices	Qualitative and quantitative approaches can coexist	Both approaches should be chosen based on their suitability to the research context.
2019	Kassu Jilcha	Research design and methodology	Mixed-method and research techniques	Lays the foundation for research methodology design	Fails to select the best methodology for certain research questions.
2018	Jodi et al.	Qualitative approaches to the RE-AIM framework	Use of qualitative methods	Qualitative methods can address complex phenomena	Uses a single method (qualitative) for analysis, limiting the depth of findings.

*Source: Researchers (2025)*

## 5.0 Conclusion

This study examines the comparative analysis of qualitative, quantitative, and mixed methods research in the context of management and social sciences. The focus is on understanding how mixed methods research (MMR) integrates qualitative and quantitative data, emphasizing that neither data type functions in isolation. The real strength of MMR lies in the complementary roles of qualitative and quantitative data: quantitative data uncovers trends and patterns, while qualitative data adds context, meaning, and explores the "why" behind those observations. As Mark (2020) notes, MMR thrives on the synergy between these two approaches, much like a symphony requiring harmony between diverse instruments.

In an increasingly complex research landscape, MMR has become more significant, offering researchers the ability to explore multifaceted phenomena beyond simplistic, one-dimensional perspectives. Chali, Eshete, and Debela (2022) argue that MMR allows researchers to delve into the richness and complexity of real-world phenomena. By integrating qualitative and quantitative data, MMR provides a holistic and transformative framework for understanding intricate research questions, particularly in management and social sciences.

While proponents of quantitative research may regard qualitative methods as less reliable, qualitative research offers invaluable insights that complement and clarify the findings of quantitative studies. Stylianos and Dimitrios (2022) suggest that the debate between qualitative and quantitative paradigms can be resolved through MMR, which combines the strengths of both approaches to provide a more comprehensive and nuanced understanding of complex research topics.

MMR is particularly useful for exploring new or complex phenomena, where traditional methods may fall short. By triangulating data from various sources, researchers can gain deeper insights and increase the validity of their conclusions. Ultimately, mixed methods research offers a powerful approach to tackling intricate questions, enriching our understanding of complex issues in management and social sciences.

### 5.1 Recommendations

Based on the findings of this study, the following recommendations are made:

- i. **Adopt a Mixed Methods Approach When Applicable:** This study encourages researchers to consider adopting mixed methods research (MMR) when investigating complex and multifaceted research questions. MMR offers a unique opportunity to explore both qualitative and quantitative data, enabling researchers to gain a more holistic and robust understanding of the phenomenon under investigation. By integrating the depth of qualitative insights with the breadth of quantitative analysis, researchers can enrich their findings and enhance the validity of their conclusions, particularly in areas such as management and social sciences.
- ii. **Carefully Manage the Integration of Qualitative and Quantitative Data:** Although this study found that the effects of qualitative and quantitative data can sometimes be non-significant when analysed separately, it is important for researchers to carefully manage the integration of these data types within the mixed methods framework. Researchers should take care to ensure that the integration does not dilute the findings or lead to contradictory results. By thoughtfully combining both types of data, MMR can offer a powerful research design strategy for addressing the emergent complexities inherent in the phenomenon under study. Researchers should also be mindful of the challenges associated with the integration process and actively seek ways to mitigate issues such as data inconsistencies or methodological confusion (Greene, 2018; Creswell & Plano Clark, 2011).

- iii. **Provide Clear Guidance on Overcoming the Challenges of Mixed Methods Designs:** Given the complexities involved in MMR, researchers should seek guidance on effectively navigating the challenges of integrating qualitative and quantitative data. MMR can sometimes be time-consuming and require a high level of expertise in both research methods (Vives, 2023). As such, training in mixed methods research is essential for researchers to understand the nuances of designing, collecting, analyzing, and interpreting data from both domains. Additionally, researchers should be encouraged to use triangulation and complementarity to strengthen the validity of their findings, ensuring that both qualitative and quantitative data are used in complementary ways to offer a comprehensive perspective on the research problem (Denzin & Lincoln, 2018; Shankar et al., 2018).

## 5.2 Limitation of the Study

This study is restricted to the highlight emergence, and challenges of integrating qualitative and quantitative approaches within a single study design (MMR) in Management Sciences.

## 5.3 Contributions to Knowledge

The essence of the research work is to make contributory impact to knowledge and to extend or validate the wisdom of mankind. Therefore, the study's contributions to knowledge are as follows:

The study has contributed to the body of academics, mostly those that are in management sciences, showing the possibility of combining both qualitative and quantitative methods.

The work provides additional literature for further research in management sciences.

## 5.4 Suggestions for Further Studies

Based on the findings of this study, the following suggestions are made for further research:

1. **Explore Nuances and Contextual Factors:** Further research should be conducted to explore the nuances and contextual factors that may influence the relationships between qualitative and quantitative methods in both Management Sciences and Art. Understanding these factors can offer deeper insights into how these methods interact and contribute to research outcomes in different disciplines.
2. **Investigate Industry-Specific Factors:** Researchers are encouraged to investigate industry-specific factors that might impact the effectiveness of various research

methods. Industry-specific research can highlight how different sectors or domains influence the application and success of qualitative, quantitative, and mixed methods approaches.

3. **Examine the Dynamics of Research Methods:** There is a need for further research and analysis to understand the specific dynamics of qualitative, quantitative, and mixed methods research. Such studies would provide clarity on how these methodologies interact, their respective strengths and weaknesses, and the optimal contexts for their use.

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