



Mixed methods approach in business management research: advantages and applications in an organizational context

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ABSTRACT

This article aims to explore the theoretical foundations, applications, and benefits of mixed methods in business management by highlighting its philosophical foundations in pragmatism and its ability to integrate diverse perspectives. This article uses qualitative techniques with a literature review approach to mixed methods research in business management. The results of this study highlight the importance of methodological pluralism in overcoming biases and limitations of single-method designs. Practical applications of mixed methods in business management research include their use in understanding organizational complexity, refining decision-making processes, and enhancing research instrument development. Despite challenges such as integration difficulties and resource requirements, mixed methods research offers unparalleled potential to address complex business management problems and foster innovative and actionable solutions.

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1. INTRODUCTION

A significant paradigm shift occurred within the scientific community when researchers realized that many phenomena could not be fully explained using traditional or single-method approaches (Mertens, 2012). In business and management studies, relying solely on either qualitative or quantitative methods often proves inadequate for developing a comprehensive understanding. The quantitative method, which focuses on numerical data and hypothesis testing (McLaughlin et al., 2016), tends to lack contextual depth and fails to capture the underlying reasons behind observed behaviors. Conversely, the qualitative method excels in exploring individual perceptions and experiences but falls short in addressing objective factors that influence overall research outcomes (Moinuddin et al., 2015).

To bridge these gaps, the mixed methods approach has emerged as an effective strategy to integrate and complement the strengths of both paradigms. This integration enriches researchers' understanding and interpretation of findings (McKim, 2017). Several perspectives highlight the rationale for combining these approaches within a single study. First, it allows for a more comprehensive understanding of a phenomenon by leveraging the strengths of each method to offset

the other's weaknesses. Second, the integration helps minimize methodological bias and limitations that may arise when relying exclusively on one research approach (Moinuddin et al., 2015).

Mix methods research has various benefits from combining quantitative and qualitative approaches, but its application still has limitations (Bryman, 2006). The problem faced in the mixed methods approach is that the development of arguments is still separate from other social sciences, making it difficult for interdisciplinary researchers to find relevant resources (Tashakkori & Creswell, 2008). The use of quantitative and qualitative approaches is often not explained in detail (Barbour, 1999), and the results are not always well communicated (O'cathain et al., 2007).

2. RESEARCH METHOD

This study employs a qualitative systematic literature review (SLR) approach to synthesize and analyze previous research on mixed methods applications in business management. The review followed several structured stages:

- 1) Identification of Sources: Relevant articles were systematically collected from three major academic databases Scopus, Web of Science (WoS), and Google Scholar to ensure inclusion of reputable and peer-reviewed journals. The search used keywords such as "mixed methods," "business management research," "integration of qualitative and quantitative," and "pragmatism in management studies."
- 2) Screening and Selection Criteria: Articles published between 2010 and 2024 were considered. Studies were included if they explicitly discussed the use, advantages, or challenges of mixed methods in management or organizational research. Publications that only mentioned mixed methods superficially or lacked methodological explanation were excluded.
- 3) Data Extraction and Analysis: Each selected article was reviewed to extract information on (a) research design typology (triangulation, explanatory, exploratory, or embedded), (b) integration techniques between quantitative and qualitative data, and (c) the practical application context within business management. The extracted data were then coded thematically following the three analytical stages of qualitative synthesis data reduction, data display, and conclusion drawing (Miles & Huberman, 1994).
- 4) Validation of Findings: To enhance credibility, the synthesis was compared across multiple seminal works (e.g., Creswell & Plano Clark, 2018; Fetters et al., 2013; Leech & Onwuegbuzie, 2009) to ensure methodological consistency and triangulation of conceptual insights.

Through this systematic approach, the study aims to generate an integrative understanding of how mixed methods are conceptualized, implemented, and adapted within business management research contexts.

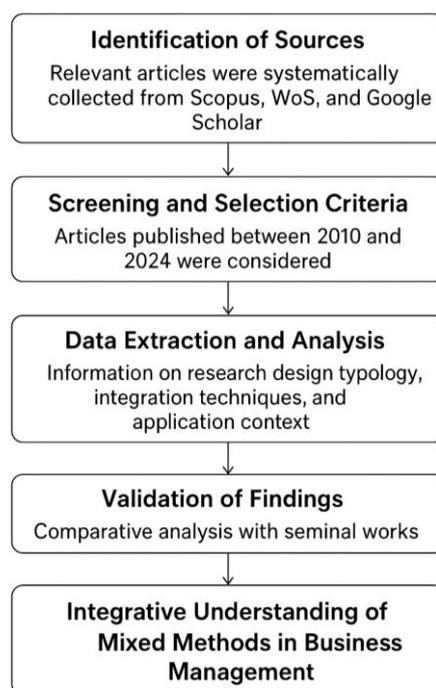


Fig 1. Research Method

The diagram illustrates the systematic research methodology adopted for conducting a comprehensive Systematic Literature Review (SLR) on the application of mixed methods in business management research. The first stage, Identification of Sources, involves systematically collecting relevant peer-reviewed articles from Scopus, Web of Science (WoS), and Google Scholar databases using targeted keywords such as “mixed methods,” “business management research,” and “integration of qualitative and quantitative approaches.” This step ensures a broad yet academically credible foundation for subsequent analysis. The second stage, Screening and Selection Criteria, focuses on refining the dataset through inclusion and exclusion parameters. Only studies published between 2010 and 2024 that explicitly discuss the methodological use or challenges of mixed methods within a business or management context are retained. Articles lacking sufficient methodological depth or relevance to integration frameworks are excluded to preserve analytical rigor. The third stage, Data Extraction and Analysis, involves extracting key information from the selected studies, including research design typologies (triangulation, explanatory, exploratory, embedded), data integration strategies, and application contexts. The analysis process follows the structured thematic approach proposed by Miles and Huberman (1994), encompassing data reduction, data display, and conclusion drawing, thereby enabling the identification of recurring methodological patterns and theoretical advancements. Next, Validation of Findings is conducted by cross-referencing synthesized results with seminal works such as Creswell and Plano Clark (2018), Fetters et al. (2013), and Leech and Onwuegbuzie (2009). This step ensures the methodological consistency and interpretive validity of the synthesized evidence. Conceptual triangulation is also employed to maintain coherence between empirical findings and foundational mixed methods theory. Finally, the stage of Integrative Understanding of Mixed Methods in Business Management consolidates the analytical insights into a cohesive framework that elucidates how mixed methods are conceptualized, operationalized, and adapted within modern management research.

3. RESULTS AND DISCUSSIONS

a. Definition of Mixed Methods

It is important to clearly distinguish mixed methods research from mixed model research, as the latter primarily deals with statistical procedures that involve both fixed and random effects within a dataset. Likewise, mixed methods research differs from multiple methods research, which entails using various data collection techniques within a single research paradigm—such as combining two qualitative methods (e.g., interviews and observations) or two quantitative methods (e.g., surveys and experiments) (Harrison et al., 2020). Mixed methods research has been conceptualized in various ways. Creswell and Plano Clark (2018) describe it as an approach that integrates philosophical foundations with specific procedures of inquiry by combining qualitative and quantitative data within one or more studies. In a similar vein, Harrison (2013) characterizes it as a methodological framework in which researchers intentionally combine qualitative and quantitative techniques, methodological procedures, analytical strategies, and interpretive frameworks to provide a more holistic solution to research questions.

Research using this approach is recognized as a unique research approach because it combines quantitative methods with qualitative methods, which are different methodologies, emphasizing critical assessment of the feasibility of integration, particularly in relation to philosophical discussions about scientific paradigms and the principles of pragmatism (Ghiara, 2020). This type of research uses philosophy as its guide, which shapes how data is collected, analyzed, and integrated (Gunasekare, 2015), and is considered the third wave or third research movement, offering practical and logical alternatives that transcend the paradigm war. The inquiry process involves three forms of reasoning: induction (identifying patterns), deduction (testing theories and hypotheses), and abduction (selecting the best explanation among available options to interpret findings). This combination provides more comprehensive answers, enhances the tools available for conducting research, and expands the scope of possible research. The combination of quantitative and qualitative research can increase the strengths and reduce the weaknesses of each method (McLaughlin et al., 2016). The main goal of this approach is to achieve a more comprehensive understanding and increase the reliability of findings through a broader and deeper exploration of the subject (Harrison, 2013).

Table 1. Comparison of Research Approaches

Aspects	Quantitative Research	Qualitative Research	Mixed Methods Research
Objectives	Aims to identify relationships among variables, describe measurable attributes, and empirically test formulated hypotheses.	Seeks to gain deep insight into a specific group, context, or phenomenon.	Focuses on exploring research questions from both quantitative and qualitative standpoints.
Data Characteristics	Involves data that are numerical or transformed into numerical values for analytical purposes.	Utilizes non-numerical data such as text, audio, video, or visual materials.	Employs a combination of numerical and narrative data drawn from both qualitative and quantitative approaches.
Common Data Sources	Typically uses surveys, official records, assessments, or standardized measurements.	Relies on observations, interviews, focus group discussions, and document analysis.	Combines sources such as surveys, interviews, focus groups, and archival data to achieve a more holistic understanding.
Data Analysis	Conducted through descriptive and inferential statistical techniques.	Conducted through systematic coding, categorization, and thematic interpretation.	Incorporates triangulation and the integration of statistical and thematic analysis methods.

Aspects	Quantitative Research	Qualitative Research	Mixed Methods Research
Quality Criteria	Emphasizes validity, reliability, and objectivity in measurement and analysis.	Ensures credibility, dependability, appropriateness, and transferability of findings.	Integrates quality standards from both paradigms through triangulation, complementarity, and expansion.
General Applications	Used for description, prediction, and generalization of results to larger populations.	Applied in identifying emerging themes, developing theories, or analyzing unique cases.	Aims to merge numerical outcomes and contextual interpretations to generate more comprehensive conclusions.
Limitations	May have limited effectiveness with small samples and challenges in capturing complex constructs.	Findings may lack generalizability, require extensive time, and be influenced by researcher subjectivity.	Demands substantial resources, dual methodological expertise, and may face reporting constraints due to word limits.

Source: McLaughlin et al. (2016)

b. Reasons for Integration

The integration of quantitative and qualitative approaches serves to strengthen the overall value and depth of mixed methods research (Creswell & Plano Clark, 2018). This integration provides multiple benefits. Qualitative evidence can be employed to confirm or enrich quantitative outcomes, while quantitative data can support the selection of qualitative participants or help explain qualitative insights (Fetters et al., 2013). The primary goal of such integration is to achieve more comprehensive and profound research findings (Johnson et al., 2007). Moreover, qualitative inquiry can aid in designing or refining quantitative instruments and interventions, as well as in generating hypotheses within qualitative components that are later tested through quantitative analysis (O’Cathain et al., 2007). Despite its benefits, implementing mixed methods research presents several challenges (Bryman, 2006). These challenges highlight the need for well-developed strategies to effectively merge procedural and data-related aspects from both approaches. Such strategies should be consistently applied across different research stages—including design, methodology, and interpretation and reporting phases (Fetters et al., 2013). Therefore, researchers must carefully design the integration process, particularly in determining how to align data collection techniques, analytical procedures, and the sequencing or timing of qualitative and quantitative components.

Table 2. Level of Integration in Mixed Methods

Level Integrasi	Pendekatan
Design	<ul style="list-style-type: none"> Basic Design includes approaches such as Exploratory Sequential, Explanatory Sequential, and Convergent, which integrate qualitative and quantitative methods in a structured manner to address specific research objectives. Advanced Framework encompasses more complex approaches like Multistage, Intervention, Case Study, Community-Based Participatory Research, and Transformative designs, which allow for deeper integration across multiple phases or contexts within the research process.
Methodology	Connecting, Building, Integrating, Embedding
Interpretation and Reporting	Narrative weaving, Juxtaposition, and Staging; Data transformation; Collaborative display

Sumber: Fetters et al. (2013)

c. Considerations for Selecting a Mixed Methods Design

According to Creswell and Plano Clark (2018), several key factors should be considered when choosing an appropriate mixed methods design, namely:

- 1) **Determining the Level of Interaction Between Quantitative and Qualitative Components**
Researchers need to establish how the quantitative and qualitative parts will interact throughout the study. The relationship may be independent, where each component is analyzed separately and later merged, or interdependent, where findings from one component directly inform the data collection and analysis of the other. The degree of interaction depends on the study's objectives and the extent to which both data types must be connected to address the research questions effectively.
- 2) **Determining the Emphasis or Priority of Each Component**
Researchers should decide which component quantitative or qualitative will receive greater emphasis. In some studies, priority may be given to quantitative methods (e.g., for hypothesis testing), while in others, qualitative methods may take precedence (e.g., for deeper exploration of a phenomenon). In certain cases, both components are given equal importance, depending on the research purpose, context, and audience.
- 3) **Determining the Sequence of Data Collection**
The sequence refers to whether the two data types will be collected sequentially or simultaneously. A sequential design involves collecting one form of data first often using the results to inform the next phase whereas a simultaneous design gathers both forms at the same time to provide a more integrated and comprehensive understanding of the issue under investigation.
- 4) **Identifying the Stages and Methods of Integration**
Integration between quantitative and qualitative components can occur at various stages, including research design, data collection, analysis, or interpretation. Researchers must carefully plan when and how this integration will happen to ensure both data types complement one another. For instance, qualitative findings may clarify or expand on quantitative results, while quantitative data can serve to verify patterns identified through qualitative analysis.

d. Three-Dimensional Typology for Mixed Methods Design

The examination of various mixed methods research designs has led to the development of a comprehensive conceptual framework that categorizes these designs into three main dimensions: the degree of integration between methods, the time orientation of data collection and analysis, and the relative emphasis placed on each methodological approach. These dimensions offer a structured perspective for understanding the diversity and complexity inherent in mixed methods research. The framework can be described in detail as follows:

- 1) **ADegree of Mixing (Partially Mixed vs. Fully Mixed)**
The assessment of different mixed methods research designs has resulted in a detailed framework encompassing three primary dimensions: the degree of mixing, time orientation, and emphasis of approaches. These dimensions help researchers systematically conceptualize and structure the integration of qualitative and quantitative elements in a study. The degree of mixing indicates the extent to which both approaches are integrated throughout the research process. In partially mixed designs, the qualitative and quantitative methods function mostly independently and are only brought together at specific stages, such as during data interpretation. In contrast, fully mixed designs demonstrate a deeper level of integration, where both approaches are combined across several phases from research design and data collection to analysis and interpretation. While the extent of

integration may lie along a continuum, mixed methods studies are typically classified as either partially or fully mixed, based on how thoroughly the two approaches are intertwined.

2) Time Orientation (Concurrent vs. Sequential)

The time orientation dimension concerns the sequencing of qualitative and quantitative phases. Concurrent designs involve collecting and analyzing both types of data simultaneously, allowing for direct comparison and complementarity in real time. Sequential designs, on the other hand, involve conducting one phase after another where, for example, qualitative insights may guide the development of quantitative tools, or quantitative results may lead to more focused qualitative exploration. The choice between concurrent and sequential timing depends on the research objectives, the resources available, and the desired level of iterative refinement.

3) Emphasis of Approaches (Equal Status vs. Dominant Status)

The third dimension, emphasis of approaches, highlights the level of priority assigned to each methodological component within a study. In equal status designs, both qualitative and quantitative approaches are given the same weight in addressing research questions. Conversely, in dominant status designs, one method takes precedence over the other, typically based on the primary focus of the research or the methodological strengths of the researcher. This adaptability allows scholars to tailor their research to either emphasize a single paradigm or maintain balance between the two. For example, a partially mixed sequential equal status design may use qualitative interviews to extract key themes that are subsequently quantified through surveys, with both stages contributing equally to the findings. Meanwhile, a fully mixed concurrent dominant status design might integrate qualitative observations with quantitative measurements at the same time, giving greater emphasis to one approach depending on the study's main objectives. This typology functions not only as a conceptual model but also as a practical guide, helping researchers plan, conduct, and assess their studies systematically. Its versatility ensures applicability across multiple disciplines such as health sciences, education, social sciences, and business where concurrent designs are advantageous for time-sensitive studies, and sequential designs are more suitable for exploratory research requiring iterative analysis.

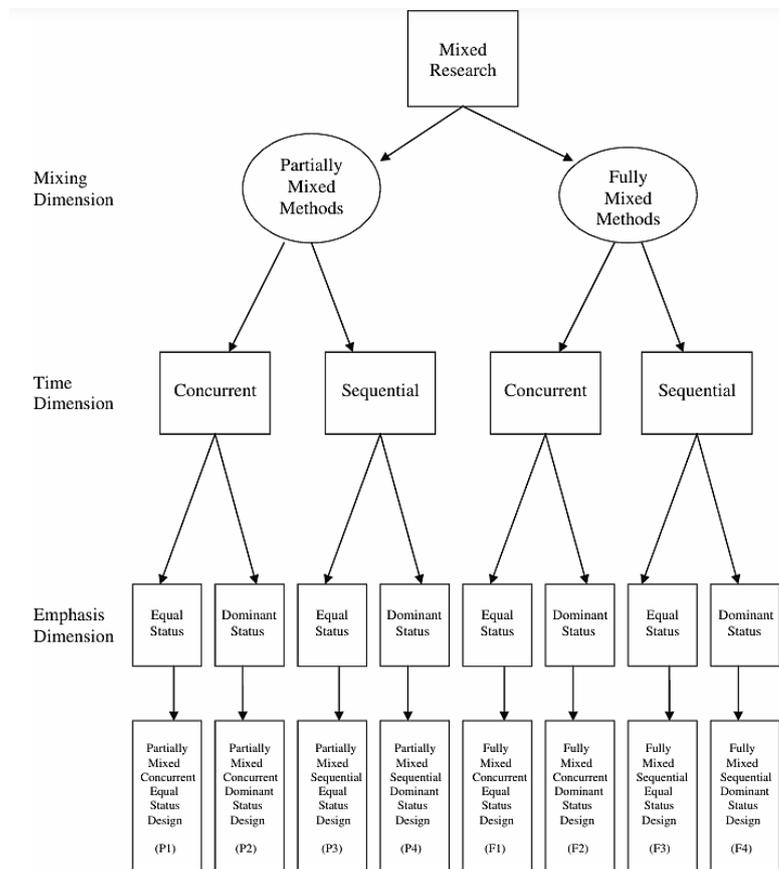


Figure 1. Mix Methods Research Typology
Source: Leech & Onwuegbuzie (2009)

e. Combining Different Paradigms

Mixed methods research integrates both quantitative and qualitative approaches within a single study. Some scholars view it as representing a new research paradigm, whereas others contend that it goes beyond merely merging methods by also blending different research paradigms (Ghiara, 2020). For instance, this approach may unite diverse methodologies such as ethnography and survey techniques or reconcile differing ontological and epistemological perspectives. Through this integration, mixed methods research enables a more comprehensive and nuanced understanding of complex research issues.

Researchers such as Greene(2006) argue that the integration of these paradigms distinguishes mixed methods research from multi-method studies, with a focus on exploring differences and challenging established perspectives. Greene(2006) highlights the value of combining different paradigms to provide complementary or dialectical insights, encouraging researchers to combine diverse perspectives. Uprichard & Dawney (2019) propose a diffraction approach, in which research questions are examined through various ontological and epistemological pathways, emphasizing diversity. Johnson (2012) advocates dialectical pluralism, a metaparadigm that encourages researchers to adapt their approaches based on research questions, facilitating the integration of competing paradigms.

This combination of paradigms, which is similar to the worldview in social sciences, often faces challenges. For example, combining objectivist and subjectivist perspectives can be very complex, especially when studying socially constructed phenomena. Combining constructivist accounts, which may challenge the reality of a phenomenon, with objectivist perspectives again.

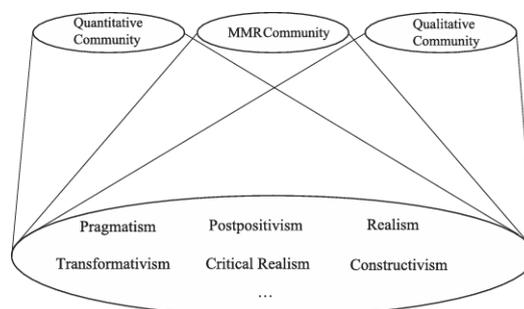


Figure 2. Paradigms as Communities of Practice
Source: Ghiara (2020)

Figure 2 illustrates the relationship between quantitative, qualitative, and mixed methods research communities and their paradigms. The quantitative community emphasizes numerical data and positivist methodology, while the qualitative community focuses on interpretive methods rooted in constructivism or transformativism. The mixed methods research community bridges these approaches by integrating paradigms such as pragmatism and critical realism for comprehensive research. Pragmatism prioritizes practical methods, postpositivism emphasizes empirical validation, realism combines human interpretation, constructivism focuses on socially constructed reality, and transformativism encourages social change.

f. Mix Methods Research Design

There are four primary types of mixed methods designs—triangulation, embedded, explanatory, and exploratory which form the core structure for integrating qualitative and quantitative approaches (Creswell & Plano Clark, 2018). Each design serves distinct purposes, follows different structures, and offers researchers flexible strategies for addressing complex research questions.

- 1) The triangulation design aims to develop a more holistic understanding of a phenomenon by gathering and analyzing qualitative and quantitative data at the same time. Its primary purpose is to enhance the credibility and robustness of findings through cross-validation between methods. This design is especially valuable for identifying consistencies or discrepancies across different data sources. For instance, in health research, quantitative surveys might be used to measure patient satisfaction, while qualitative interviews explore the underlying reasons for satisfaction or dissatisfaction.
- 2) Embedded design is a design in which one type of data (qualitative or quantitative) plays a supporting role in the main method. This approach is often used in intervention studies, program evaluations, or clinical trials, where one method is the main driver, but additional data adds depth or answers secondary questions. For example, a predominantly quantitative study on the effectiveness of a new teaching method may include qualitative observations or interviews to explore contextual factors that influence outcomes. This design is particularly useful for answering complex questions where the primary method alone may not be sufficient. Explanatory design follows a sequential approach, beginning with the collection and analysis of quantitative data, followed by qualitative investigation to provide deeper insight into the initial findings. This design is ideal for research where numerical data highlights patterns or trends that require further exploration to understand the underlying mechanisms. For example, if survey results show a significant gender gap in workplace satisfaction, follow-up interviews may reveal reasons such as perceived inequality or cultural barriers. Explanatory design is particularly effective when researchers want to understand the "why" behind quantitative trends.
- 3) Exploratory design begins with the collection and analysis of qualitative data to explore a phenomenon and generate hypotheses, followed by quantitative methods to test these hypotheses or generalize the findings to a larger population. This design is often used in

areas where there is little previous research or where the research topic is complex and poorly understood. For example, interviews with educators about the challenges of distance learning may reveal themes that are then quantified through surveys to measure their prevalence in a broader sample. Exploratory design is ideal for building foundational knowledge or developing instruments for further research.

g. Application of Mixed Methods Research in the Field of Business Management

Research in business management has grown increasingly complex, encompassing phenomena that cannot be fully explained through either quantitative or qualitative methods alone. Mixed methods research offers an effective solution by integrating the strengths of both approaches, allowing for a more holistic understanding of complex issues and addressing diverse research challenges. By combining methods within a single study, researchers can deepen their insights into a phenomenon—using one method's strengths to offset the weaknesses of the other. This integration reduces biases and limitations inherent in each approach (Moinuddin et al., 2015) while enhancing their respective advantages to produce richer and more comprehensive findings (Smajic et al., 2022; McLaughlin et al., 2016). Such an approach is particularly relevant in business management research, where data often include both numerical information (e.g., financial statements or satisfaction surveys) and subjective perspectives (e.g., interviews with customers or employees). The use of mixed methods offers several advantages. First, this method allows researchers to examine various aspects of an organization holistically. For example, quantitative surveys can measure employee satisfaction levels, while in-depth interviews explore the factors that influence that satisfaction. Second, it supports more inclusive decision-making by providing managers with diverse sources of data. For example, the effectiveness of a marketing strategy can be evaluated not only from sales figures, but also from consumer feedback on the campaign. In addition, qualitative data can assist in developing or refining quantitative instruments such as questionnaires, such as using customer interviews to identify key service attributes to be measured in the survey. Finally, integrating both approaches can reduce potential biases that may occur if only one method is relied upon. For example, quantitative surveys that indicate low customer retention can be validated through qualitative interviews to identify the specific causes behind the problem.

4. CONCLUSION

The integration of quantitative and qualitative methods in business management research is an important innovation for overcoming the limitations of a single approach by leveraging the strengths of each. Mixed methods research promotes a comprehensive understanding of complex phenomena, allowing researchers to explore numerical patterns and contextual depth. This dual approach has proven invaluable in business studies, where organizational dynamics, market behavior, and decision-making processes often require multi-dimensional analysis. This article emphasizes that combining methods allows for stronger findings, reduces bias, and increases the validity of conclusions. Mixed methods not only facilitate richer insights but can provide practical tools for overcoming real-world challenges in business management, such as developing effective strategies, improving organizational performance, and understanding consumer behavior. Despite the challenges of integration and resource intensity, the pragmatic foundation of mixed methods research ensures its adaptability and relevance across various business contexts. Going forward, the adoption of mixed methods will continue to advance the rigor and impact of business management research, bridging the gap between theoretical exploration and practical application.

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