

THE CASE STUDY

METHOD IN QUALITATIVE RESEARCH: A CRITICAL ANALYSIS OF ITS FOUNDATIONS, APPLICATIONS, AND CHALLENGES

EL MÉTODO DE ESTUDIO DE CASO EN LA INVESTIGACIÓN CUALITATIVA: UN ANÁLISIS CRÍTICO DE SUS FUNDAMENTOS, APLICACIONES Y DESAFÍOS

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Suggested citation (APA, seventh edition) _____

Espinoza-Freire, E. E. (2025). The case study method in qualitative research: a critical analysis of its foundations, applications, and challenges. *Sophia Research Review*, 2(3), 26-34.

Submission: 07/12/2025

Acceptance: 08/21/2025

Publication: 09/01/2025

ABSTRACT

This article offers a comprehensive review of the case study method, aiming to elucidate its philosophical foundations, typologies, design components, data collection and analysis strategies, as well as its strengths, limitations, and current applications. The methodology employed for this review was based on a critical analysis and synthesis of key case study literature, integrating diverse perspectives from relevant authors in the field. Key findings highlight that the case study is a powerful qualitative strategy for gaining a deep and contextualized understanding of complex phenomena. Its capacity for generating and refining theories is emphasized, as well as its flexibility to adapt to multiple disciplines. However, important challenges are also discussed, such as issues of generalizability, methodological rigor, and the potential for researcher bias. The importance of ethical considerations, such as privacy and informed consent, is underscored in ensuring research integrity. In conclusion, the case study method is an invaluable tool that, despite its limitations, offers an unparalleled wealth of data and contextual understanding. Its implications for researchers suggest the need for rigorous design, data triangulation, and ongoing reflexivity. The article also points to future directions, such as integration with new technologies and their growing role in practice-based research.

Keywords:

Case study, qualitative methodology, triangulation, generalization.

RESUMEN

Este artículo ofrece una revisión exhaustiva del método de estudio de caso, con el objetivo de dilucidar sus fundamentos filosóficos, tipologías, componentes de diseño, estrategias de recolección y análisis de datos, así como sus fortalezas, limitaciones y aplicaciones actuales. La metodología empleada para esta revisión se basó en un análisis y síntesis crítica de la literatura clave sobre el estudio de caso, integrando diversas perspectivas de autores relevantes en el campo. Los hallazgos clave resaltan que el estudio de caso es una estrategia cualitativa poderosa para obtener una comprensión profunda y contextualizada de fenómenos complejos. Se enfatiza su capacidad para generar y refinar teorías, así como su flexibilidad para adaptarse a múltiples disciplinas. Sin embargo, también se discuten desafíos importantes, como las cuestiones de generalidad, el rigor metodológico y el potencial de sesgo del investigador. Se subraya la importancia de las consideraciones éticas, como la privacidad y el consentimiento informado, para asegurar la integridad de la investigación. En conclusión, el método de estudio de caso es una herramienta invaluable que, a pesar de sus limitaciones, ofrece una riqueza de datos y una comprensión contextual inigualables. Sus implicaciones para los investigadores sugieren la necesidad de un diseño riguroso, triangulación de datos y una constante reflexividad. El artículo también apunta a futuras direcciones, como la integración con nuevas tecnologías y su papel creciente en la investigación basada en la práctica.

Palabras clave:

Estudio de caso, metodología cualitativa, triangulación, generalización.



INTRODUCTION

Qualitative research has established itself as a fundamental pillar in various academic disciplines and fields of study. This methodological approach provides essential tools for a deep understanding of complex phenomena, allowing researchers to explore social, cultural, and organizational realities with a level of detail and richness that other methods do not always achieve. Authors such as Cotán-Fernández (2016); and Flick (2018) have highlighted the growing importance of qualitative research in generating contextualized and meaningful knowledge.

Case study, a prominent method in qualitative research, is distinguished by its ability to examine events, programs, individuals, or groups in their natural setting. This provides a comprehensive and in-depth understanding of the phenomena.

Likewise, Jiménez Chaves (2022) highlights the effectiveness of case studies to investigate current phenomena within their contextual limits, especially when the distinction between the phenomenon and its environment is unclear. Complementing this idea, Avallé (2022) describes the case study as an empirical research strategy that explores a contemporary phenomenon in its real context, based on various sources of evidence.

The need to review the case study method at this time is based on several key factors, including its ongoing evolution, persistent methodological debates, and the emergence of new applications in various fields. Despite its long history, the method continues to be the subject of discussion and refinement, making a review necessary to consolidate advances and clarify its relevance.

First, the evolution of the case study method has been constant, adapting to the complexities of contemporary research. As Roth-Eichin (2022) points out, the inherent flexibility of case study design allows it to be applied in increasingly diverse contexts, from the social sciences to engineering and healthcare, which demands an update of best practices and methodological considerations.

Second, ongoing debates persist regarding the validity, reliability, and generalizability of findings derived from case studies. Neubert (2023) highlights the importance of addressing these discussions to strengthen the scientific rigor of the method and dispel misconceptions about its scope. A critical review can help establish clearer guidelines for the rigorous application of case studies, ensuring that their contributions are recognized and valued within the academic community.

This review therefore seeks to address several gaps in the understanding and discussions surrounding the case study method. One significant gap relates to the perception and application of methodological rigor. Case study methods are often criticized for

their alleged lack of generalizability or for being less “scientific” than other methods, which Alonso (2023) suggests is due to a limited understanding of their quality criteria and intrinsic purpose. By clarifying standards of rigor and strategies for ensuring validity and reliability in case studies, this review aims to dispel such misunderstandings.

Another important gap lies in the standardization of design and analysis processes. Although seminal guides exist, the diversity of approaches can lead to confusion. Vásquez Ramírez et al. (2023) point out the need for greater clarity in the presentation of methodological phases and decisions, which would allow novice and experienced researchers to apply the method with greater confidence and consistency.

Finally, the emergence of new applications and the integration of case studies with other research methods, such as mixed methods approaches, warrant a comprehensive review. Calle Mollo (2023) highlights how case studies are being used in innovative combinations to address more complex research questions, necessitating an analysis of how these new configurations impact their design and execution. This review therefore seeks to address gaps in existing understanding and discussions about the method, providing an updated view of its relevance and potential in the current research landscape.

The case study method is defined as an empirical research strategy that focuses on the in-depth exploration of a contemporary phenomenon within its real-life context. One of its distinctive features is the ability to address research questions that begin with “how” or “why,” allowing for a detailed understanding of the processes and dynamics involved (Canta Honores & Quesada Llanto, 2021). This approach is not limited to description but seeks to offer explanations and build theory based on the intensive observation of a case or set of cases.

Another key feature is the use of multiple sources of evidence. Researchers using case studies often triangulate data from interviews, observations, documents, archival records, and artifacts, which contributes to the robustness of their findings and a more complete view of the phenomenon under study (Peralvo Arequipa & Chancusi Herrera, 2021). This triangulation not only validates the information but also allows for exploring different facets of the case from multiple perspectives, enriching contextual understanding. Furthermore, case studies are distinguished by their flexibility, allowing researchers to adapt to the specificities of the context and the phenomenon, making this method a valuable tool for research across diverse disciplines.

This review article aimed to analyze the theoretical foundations of the case study, explore its design variations, evaluate its strengths and limitations, and

discuss its application in various research fields. In doing so, we sought to offer a comprehensive understanding of this qualitative method.

To achieve these objectives, the rest of the article has been structured logically. Below, each of the aforementioned aspects will be addressed in depth, beginning with a review of the theoretical principles underlying the case study, followed by a detailed exploration of its design methodologies and practical applications.

METHODOLOGY

This study will adopt a qualitative methodological approach, focusing on the application of the case study method. This choice is based on the need to obtain a deep and holistic understanding of the phenomenon under investigation within its natural context, allowing for a detailed exploration of the complex interactions and underlying processes that characterize the reality studied. Qualitative research is particularly suited to unraveling meanings, experiences, and social dynamics, which aligns perfectly with the objectives of this inquiry. This approach will enable the collection of rich and contextualized data, essential for a nuanced and comprehensive interpretation of the case.

For data collection, various sources of evidence will be used, including semi-structured interviews, documentary analysis, and direct observation, to ensure triangulation and strengthen the credibility of the findings. Before beginning any data collection phase, ethical protocols will be strictly adhered to. All participants will be fully informed about the study's objectives, the procedures involved, and their rights, ensuring that their participation is completely voluntary and based on a clear understanding. Obtaining informed consent is not merely a formal requirement but an ongoing process that safeguards the autonomy and well-being of individuals. Participant confidentiality and anonymity will be rigorously maintained throughout the research.

DEVELOPMENT

Case study is a qualitative research method that has been interpreted in various ways by key authors in the field. For example, Yin (2018) defines it as an empirical strategy that investigates a contemporary phenomenon in its real-life context. This approach is particularly useful when the boundaries between the phenomenon and its environment are not clearly evident, and relies on the use of multiple sources of evidence to build a robust understanding. Along these same lines, Stake (1995) views the case study not as a mere methodological choice, but as a fundamental decision about what to study, focusing on a deep understanding of particular cases rather than seeking generalization.

For her part, Merriam (1998) emphasizes that the case study is an intensive and holistic investigation

whose main objective is to understand a phenomenon within its context. These perspectives are essential to appreciate the richness and versatility of this method. As Finol de Franco & Vera Solórzano (2020) point out ; and Jiménez (2020) has highlighted in her analyses, the capacity of the case study to offer a detailed and contextualized vision is unmatched. Likewise, Ramírez-Sánchez et al. (2019) also contribute to this discussion by emphasizing the flexibility and depth that the case study offers, allowing researchers to explore complex phenomena from multiple angles.

Central features of the method

The core characteristics of case studies significantly distinguish them from other research methodologies, making them an invaluable tool for qualitative research. One of the most important is in-depth research, which allows for a detailed and thorough exploration of the phenomenon under study. As Canta Honores & Quesada Llanto (2021) point out, this depth is crucial for unraveling the complex layers of a situation, going beyond the surface to understand the nuances and interconnections that might otherwise go unnoticed.

Furthermore, the case study is conducted in the real-life context of the event, program, or individual. This immersion in the natural environment is essential to capturing the inherent complexities of the situation and providing a more authentic and holistic understanding of the phenomenon, as Ramírez-Sánchez et al. (2019) point out. No less important is the use of multiple data sources, such as interviews, observations, documents, and artifacts. This diversity of sources strengthens the validity and richness of the findings, since the triangulation of information obtained from different sources allows for a more complete and nuanced view of the case.

Origins of the method in different disciplines

The case study, now a well-established methodology in qualitative research, has deep and diverse historical roots, extending across multiple disciplines. Its origins date back to the late 19th and early 20th centuries, emerging as a way to investigate complex phenomena in their natural context. In sociology, for example, it was used to understand social and community dynamics, with pioneering studies exploring urban life and group interactions.

In psychology, the case study method enabled an in-depth analysis of individuals, their behaviors, and cognitive processes, contributing significantly to the development of theories about personality and human development. Similarly, in education, the method facilitated the exploration of innovative pedagogical practices and the impact of learning environments on students and teachers. Even in management, it was used to analyze business and organizational cases, helping to understand the complexities of

decision-making and management. The versatility and adaptability of the case study in these early disciplines are key aspects, as Infante-Amate et al. (2017) point out, and its application has been fundamental in the advancement of knowledge.

Development and consolidation as a research method

Throughout the 20th century, the case study underwent significant development and consolidation, transforming from an intuitive tool into a rigorous and systematic research method. Initially, its application was more descriptive, but over time, more structured methodological guidelines were established. This consolidation process was driven by the need to address research questions that could not be adequately answered by quantitative methods, especially those that required deep and contextualized understanding.

The proliferation of manuals and works detailing the procedures for conducting case studies, along with their growing acceptance in academia, contributed to their legitimization as a valid and valuable methodology. The work of authors such as Yin and Stake was fundamental in this process, as they provided theoretical and practical frameworks that guided generations of researchers. Núñez-Tabales et al. (2015) highlight how this method has been integrated into various areas of knowledge, demonstrating its flexibility and capacity to generate significant *insights*. The evolution of the case study has also been reflected in its ability to adapt to new technologies and research paradigms, maintaining its relevance in a constantly changing academic landscape, as confirmed by Jiménez (2020).

Epistemological and Ontological Perspectives in the Case Study

When approaching a case study, it is essential to recognize the **philosophical foundations** underlying the research, as these epistemological and ontological perspectives shape both the design and interpretation of the findings. Epistemology focuses on the nature of knowledge and how it is acquired, while ontology explores the nature of reality. These preconceptions directly influence how the researcher approaches information and constructs meaning from it, defining what is considered valid knowledge and what constitutes the reality studied.

For example, if the case study adopts an interpretivist perspective, it assumes that social reality is constructed and that knowledge is generated through understanding the meanings and interpretations of the actors involved (Castilla Barraza et al., 2025). This translates into a research design that prioritizes qualitative methods, such as in-depth interviews, participant observation, and narrative analysis, seeking to capture the multiple perspectives and subjectivity of participants. Data interpretation focuses on understanding specific

contexts and human interactions, rather than seeking universal laws or objective truths.

In contrast, if the study is oriented towards critical realism, it is postulated that an objective reality exists, although this can only be apprehended partially and through social and discursive mechanisms (Toledo Lara, 2017). This perspective seeks to identify the underlying structures and processes that generate the observed phenomena, while recognizing the influence of the researcher in the knowledge process. The methodological design could combine qualitative and quantitative approaches, seeking both depth of understanding and the identification of patterns and causalities, recognizing that the interpretation of the data will always be mediated by the context and the position of the researcher.

Types and Designs of Case Studies

Case studies, as a research methodology, offer various classifications that allow their design to be tailored to the researcher's specific objectives. The choice of study type directly influences the depth, scope, and generalizability of the findings. Understanding these categorizations is essential for structuring rigorous and relevant research.

Common Classifications of Case Studies

One of the first distinctions made in case studies is the number of cases addressed. A single-case study is a good option, allowing for a deep dive into a particular phenomenon, offering a detailed and contextualized understanding. However, its main disadvantage lies in the limited generalizability of the results to other situations. In contrast, multiple-case studies involve the analysis of several cases that, although individual, are explored to identify patterns, similarities, and differences, which enhances the robustness of the conclusions and their transferability to other contexts.

Another relevant classification concerns the level of analysis. A case study can be holistic, meaning that the case is conceived as a single, complete unit, analyzed in its entirety without internal subdivisions. On the other hand, an embedded study involves the examination of multiple units or subunits within a single case, allowing the exploration of complex phenomena and their internal interactions (Castilla Barraza et al., 2025). This latter approach is particularly useful when a broad case needs to be broken down into more manageable components for detailed analysis.

Case studies are also categorized according to their purpose. A study can be exploratory when the objective is to lay the groundwork for future research, generating hypotheses and gaining insight into a little-known phenomenon. If the purpose is to describe the characteristics of a phenomenon in detail, it is classified as descriptive. Finally, a case study is explanatory when it seeks to identify causal relationships between

variables, attempting to elucidate why certain phenomena occur (Toledo Lara, 2017). Each purpose demands a different methodological approach to data collection and analysis.

Finally, Stake proposed a classification based on the nature of the case and the researcher's motivation. An intrinsic case study is conducted when the primary interest lies in understanding the case itself, due to its uniqueness or particular relevance. In an instrumental case study, the case is selected not for its intrinsic interest, but because it serves as a means to understanding a broader phenomenon or theory. Finally, a collective case study involves the study of several instrumental cases in order to investigate a broader phenomenon or population of cases, seeking to build an aggregate understanding through comparison and contrast.

Key components of a Case Study design

A robust case study design requires the articulation of several essential components that guide the research from conception to interpretation of the results. These elements ensure methodological consistency and the validity of the findings, allowing for a deep and contextualized exploration of the phenomenon under study.

The starting point of any case study is the research questions, specifically those known as the "what question" and the "how question." These question the nature of the phenomenon and the processes through which it manifests, respectively. Their clear and precise formulation is crucial, as they guide data collection and analysis. Additionally, theoretical propositions are initial statements or hypotheses that the study seeks to explore or refute, providing a conceptual framework that links the specific case to broader theories (Ramírez-Sánchez et al., 2019).

Another vital component is defining the unit of analysis, which delimits what will be the object of intensive study. This can be an individual, a group, an organization, an event, or a community. Once the unit has been defined, it is essential to establish the logic that links the data to the propositions. This involves detailing how the collected data (whether qualitative or quantitative) will be related and analyzed to address the theoretical propositions posed at the outset. Finally, the criteria for interpreting the findings must be clearly defined. These criteria guide the discussion phase of the results, allowing the researcher to draw meaningful and contextualized conclusions from the collected evidence, ensuring that the interpretation is systematic and justified.

Data collection and analysis in Case Studies

The effectiveness of a case study lies in the comprehensiveness and quality of the data collected, as well as the rigor of its analysis. To achieve a deep

understanding of the phenomenon under study, researchers employ a variety of strategies that allow them to capture different facets of reality.

Data collection strategies

Data collection in a case study benefits from a diversity of evidence sources, which enriches perspectives and validates information. Interviews are a primary source, allowing for detailed narratives and the subjective perspectives of participants (Jiménez Chaves, 2022). Direct observation, meanwhile, enables the recording of behaviors, interactions, and context in real time, offering an in-situ view of the phenomenon. Documents, which may include reports, minutes, correspondence, or historical records, provide valuable contextual information and background. Similarly, physical artifacts, such as tools, objects, or buildings, can offer clues about the practices and culture of the case. Additionally, surveys can be used to collect data from a larger number of participants on specific aspects, while archival data offer a longitudinal perspective and allow for tracking changes over time (Avalle, 2022).

Data triangulation is a fundamental principle in case studies, and its importance is unquestionable. It involves using multiple sources of evidence, data collection methods, or researcher perspectives to validate and enrich findings (Jiménez Chaves, 2022). By comparing and contrasting information obtained from different sources, the likelihood of bias inherent in a single source is reduced and the credibility of conclusions is strengthened. For example, if interview data are consistent with observations and information in a document, confidence in those findings increases significantly, providing a more complete and nuanced picture of the case under study (Avalle, 2022).

Data Analysis Techniques in Case Studies

Data analysis in a case study is a rigorous process that goes beyond mere description, seeking to build a deep and grounded understanding of the phenomenon. To achieve this, researchers employ various strategies and methods that make sense of the vast amount of information collected.

Analytical strategies and qualitative methods

Within the specific analytical strategies for case studies, pattern matching is a powerful technique that consists of comparing observed data patterns with pre-existing theoretical patterns, looking for coincidences that validate or refute the initial propositions (Calle Mollo, 2023). The construction of explanations, on the other hand, involves an iterative process in which the researcher elaborates a causal narrative that explains the studied phenomenon, refining it as new data emerge or understanding deepens. When the case involves a sequence of events over time, time series analysis becomes invaluable, allowing to identify trends, turning

points and the evolution of the phenomena (Roth-Eichin, 2022).

In addition to these strategies, case studies, particularly those with a qualitative focus, benefit from a variety of applicable qualitative methods. Thematic analysis is critical for identifying and organizing patterns of meaning or recurring themes in the data, offering a structure for interpretation (Neubert, 2023). Content analysis is used to analyze the presence of certain words, concepts, or themes in texts and other media, quantifying or describing their occurrence. To unravel participants' stories and experiences, narrative analysis focuses on how accounts are constructed and presented, while coding is a systematic process of labeling data segments to facilitate their categorization and subsequent analysis, laying the groundwork for the identification of themes and patterns (Calle Mollo, 2023).

The role of theory in Analysis

Theory plays a central and dynamic role in case study data analysis. It is not merely a starting point, but a constant guide that permeates the entire analytical process (Roth-Eichin, 2022). Theory can serve as an initial conceptual framework to structure data collection and the formulation of propositions, directing attention to relevant aspects of the phenomenon. During the analysis, theory helps interpret the findings, providing a lens through which to understand the relationships and processes identified in the data. Likewise, data can, in turn, challenge, refine, or even generate new theories, making the case study a powerful method for theory development (Neubert, 2023). This constant dialogue between theory and empirical evidence is what lends rigor and depth to the conclusions of a case study.

Strengths and limitations of the Case Study method

The case study method, although often debated, has a number of distinctive advantages and strengths that make it an invaluable tool for research across diverse disciplines. These characteristics allow for a deep and nuanced exploration of complex phenomena that are difficult to address with other methodologies.

Advantages and Strengths

One of the main strengths of case studies is their ability to provide depth and richness of data (Alonso, 2023). Unlike methods that seek to generalize, case studies delve into the details, capturing the complexity of interactions, processes, and contexts. This allows for a holistic understanding of the phenomenon, going beyond mere correlations to explore the underlying dynamics.

It also facilitates a contextualized understanding of complex phenomena (Vásquez Ramírez et al., 2023). By focusing on a specific case within its natural setting, researchers can analyze how multiple factors

interrelate and influence outcomes, which is essential for understanding situations that cannot be easily isolated in a laboratory. This contextualization is crucial for obtaining findings that are meaningful and applicable to the reality studied.

Another significant advantage is the ability to generate new theories or refine existing ones (Canta Honores & Quesada Llanto, 2021). Because case studies allow for detailed exploration and the identification of emerging patterns, they can serve as fertile ground for developing novel concepts or modifying pre-established theoretical frameworks. It is a quintessential inductive method, ideal for situations where prior knowledge is limited or a more nuanced understanding of the theory is needed.

Flexibility and adaptability to diverse contexts are also outstanding features of the case study method (Peralvo Arequipa & Chancusi Herrera, 2021). It can be applied to a wide range of topics, from organizational analysis to community or individual studies, and in different settings. This adaptability makes it relevant for researchers exploring unique or poorly documented phenomena.

Finally, case studies have high relevance to practice and policy (Alonso, 2023). By providing rich descriptions and deep understandings of real-life situations, the findings can be directly useful to practitioners, policymakers, and decision-makers. They offer concrete examples and lessons learned that can inform real-world interventions and strategies, bridging the gap between academic research and practical application.

Challenges and limitations of the Case Study Method

Despite its many strengths, the case study method also presents inherent challenges and limitations that researchers must carefully consider. Addressing these limitations is crucial to maintaining the validity and rigor of the research.

Challenges and limitations

One of the most common criticisms of case studies focuses on the generalizability and transferability of their findings (Canta Honores & Quesada Llanto, 2021). Since the method focuses on the intensive exploration of a limited number of cases, often unique or atypical, it can be difficult to determine the extent to which the conclusions can be applied to other populations or contexts. This limitation does not invalidate the method, but it underscores the need to be cautious when extrapolating results.

Ensuring rigor and validity in case studies is another significant challenge. Ensuring credibility (that the findings accurately represent the participants' reality) and confirmability (that the findings are based on the data and not on researcher bias) requires meticulous attention to methodology (Finol de Franco & Vera Solórzano, 2020). This entails implementing techniques

such as triangulation, peer review, and participant verification to strengthen confidence in the results.

The potential for researcher bias is a constant concern in qualitative case studies. Given the immersive nature of the method, researcher subjectivity can influence case selection, data collection, and, particularly, interpretation. Recognizing and mitigating this bias through reflexivity and methodological transparency is essential to the integrity of the study.

Furthermore, case studies are often resource-intensive, implying considerable demands in terms of time and costs (Ramírez-Sánchez et al., 2019). Gathering detailed data from multiple sources, immersion in the context, and thorough analysis require a significant investment of manpower. This laborious nature can be a barrier for some researchers or projects with limited budgets.

Finally, the difficulty of replication is a recognized limitation (Jiménez, 2020). Due to the unique nature of each case and the specificity of its context, reproducing a case study exactly to obtain the same results is practically impossible. However, this does not detract from the method's value, as its primary objective is not exact replicability, but rather deep understanding and the generation of transferable knowledge.

Ethical Considerations in Case Studies

In any research, but particularly crucial in case studies given their immersive and detailed nature, ethical considerations are fundamental pillars that ensure the protection of participants and the integrity of the research process. Respect for the rights and dignity of those involved is paramount at every stage of the study.

One of the essential ethical principles is privacy, which refers to the right of individuals to control access to their person and information. Closely linked to this, confidentiality ensures that the information provided by participants will be protected and not disclosed in a way that allows their identification (Espinoza-Freire, 2022). This involves data anonymization and the secure storage of any sensitive material. Both considerations are vital to fostering an environment of trust and openness, encouraging participants to share their experiences without fear of negative repercussions.

Another essential ethical aspect is informed consent. This process requires participants to be fully aware of the nature of the study, its objectives, the procedures involved, the potential risks, and the expected benefits before agreeing to participate. They must understand that their participation is completely voluntary and that they have the right to withdraw at any time without penalty. Obtaining this consent is not a one-time act, but rather an ongoing process that may require reconfirmation throughout the study, especially if the conditions or scope of the research change. Transparency and

honesty in communication are essential to establishing an ethical and respectful relationship with participants.

Current applications and debates of the Case Study method

The case study method, with its ability to explore complex phenomena in depth, has found a wide range of applications in various disciplines, while continuing to be the subject of significant methodological debate.

Applications in various fields

Case studies are a versatile tool widely used in multiple fields of research. In business, they are used to analyze successful or unsuccessful business strategies, study innovative business models, or understand organizational dynamics in specific companies. In the healthcare sector, case studies can be used to investigate the implementation of new therapies, evaluate public health programs, or analyze the trajectories of patients with complex conditions.

In education, this method is valuable for examining pedagogical practices, assessing the impact of curriculum reforms in particular schools, or understanding the learning processes of students with specific needs. Within the social sciences, it is used to explore cultural phenomena, analyze social movements, or investigate the life of particular communities, offering a detailed view of human interactions and social structures. Even in engineering, although less common, it can be applied to analyze the performance of a specific engineering project or the implementation of a new technology in a real-life context, demonstrating the method's adaptability to technical environments.

Debates and controversies

Despite its widespread application, case studies are not without debate and controversy within the academic community. One of the most recurring discussions is the question of the "scientific nature" of case studies. Critics often argue that their qualitative nature and lack of control over variables can compromise their scientific rigor compared to more experimental methodologies. However, proponents argue that their value lies precisely in their ability to explore the complexity of the real world, generating deep knowledge that cannot be captured by purely quantitative approaches.

Another point of debate is generalizability. As mentioned above, the uniqueness of the cases studied raises questions about the transferability of findings to other contexts. However, it is argued that the goal is not statistical generalizability, but analytical generalizability, where the results of one case can enrich or refute existing theories, allowing other researchers to apply that knowledge to similar situations. Finally, integration with quantitative methods has given rise to mixed methods approaches. This debate focuses on how

to effectively combine the qualitative depth of the case study with the breadth and statistical power of quantitative data, seeking to strengthen the validity and reach of conclusions.

Innovations and Future Trends

The field of case studies is constantly evolving, driven by innovations and future trends. Advances in new technologies and data management tools are revolutionizing the way researchers collect, organize, and analyze information. Specialized software for qualitative analysis (CAQDAS), data visualization tools, and collaborative platforms are facilitating the management of large volumes of complex data, improving the efficiency and rigor of analysis.

Furthermore, the role of case studies in practice-based research is a growing trend. This approach emphasizes collaboration between researchers and practitioners to generate knowledge that is directly relevant and applicable to real-world challenges. Case studies are ideal for this type of research, as they allow interventions, programs, or policies to be examined in their authentic settings, providing practical lessons and evidence that can inform decision-making and continuous improvement across diverse sectors.

CONCLUSIONS

The case study method stands out as an invaluable research strategy, characterized by its ability to offer a deep and contextualized understanding of complex phenomena. Throughout this presentation, we have explored its various classifications, from the distinction between single and multiple cases, to its exploratory, descriptive, or explanatory purpose, and the typologies of Stake (intrinsic, instrumental, or collective).

We have highlighted the essential components of a rigorous design, including the formulation of clear questions, theoretical propositions, the delimitation of the unit of analysis, and the logic that links the data. Data collection, which draws on varied sources and is strengthened by triangulation, along with analytical techniques such as pattern matching and thematic analysis, underscores its holistic approach. While it faces challenges such as generalizability and bias, its strengths, such as the richness of the data and the capacity to generate theory, reaffirm its value. Ethical considerations, focusing on privacy, confidentiality, and informed consent, are fundamental to the integrity of any research of this type.

Ultimately, the case study is not simply a methodological option, but a powerful research strategy that allows researchers to delve into the complexity of the real world. Its relevance remains unwavering, offering a unique lens for understanding situations that cannot be dissociated from their context. Its ability to generate detailed and applicable knowledge positions it as an

essential tool for informing both theory and practice across a variety of disciplines.

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Conflicts of Interest:

The author declares no conflicts of interest.

Author Contributions:

Eudaldo Enrique Espinoza-Freire: Conceptualization, data curation, formal analysis, investigation, methodology, supervision, validation, visualization, writing – original draft, and writing, review, and editing.