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A Rigorous Research Proposales Composed of Several Constituent Elements, Which Are Analyzed Here Based on Research Methodology. A Documentary Review Es Undertaken, Encompassing A Theoretical Comparison and A Simplification of Discourse.

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ABSTRAC: This article outlines the fundamental components indispensable for the systematic development of a research proposal . It es based on the logical structure of a research project and aims to provide a fundamental framework for the design of rigorously and methodologically sound research initiatives . Using a documentary analysis approach , this study employs theoretical comparison and discursive simplification techniques to examine the fundamental elements necessary to construct a structured and coherent research proposal . The initial focus of this study es on the identification of knowledge gaps, thematic delimitation , and the selection of relevant academic and research backgrounds , with a focus on the formulation and systematization of the problem . The articulation of research objectives and justification es subsequently discussed , with the purpose of establishing a comprehensive methodological framework . The discussion also includes a critical analysis of the theoretical , conceptual, contextual, and normative references , highlighting the importance of a coherent methodological approach . This study makes a significant contribution to the academic discourse by offering practical recommendations for researchers , particularly at higher education , with the aim of enhancing the quality and impact of their research projects ..

Keywords : The proposal encompasses research methodology , theoretical analysis , discursive simplification , and higher education , in addition to research training.

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Introduction

The purpose of this article is to initiate a discussion about the essential components for the systematic development of a research proposal. To do so, we take as our starting point the logical structure of a research proposal, conceived as the preliminary basis for developing a research project. (Flick , 2018)

The methodological approach is based on documentary analysis, employing techniques such as theoretical comparison and discursive simplification to examine the components necessary for a rigorous and accurate demonstration. In the area of academic and research production, the study addresses the implementation of a research process at the university level or equivalent. (Agresti & Finlay , 2009)

First, the technical aspects inherent to topic selection are addressed, such as identifying knowledge gaps, defining the topic, selecting relevant background information, and formulating the problem. Emphasis is placed on clarifying the problem and the aspects necessary to define the categories and variables that characterize it. (Babbie , 2010)

Subsequently, documentary analysis techniques, as well as theoretical comparison and discursive simplification, are implemented to address the systematization of the problem, the support tools for representing it, the objectives consistent with the systematized route and the justification that is broken down in holistic terms to seek an argumentative response to the relevance of the problem, corresponding to the practical, theoretical and methodological consequences that are promoted in the development intention. (Bernal, 2010)

From theoretical comparison, epistemic equivalence techniques are implemented to establish references for constructing the theoretical, conceptual, historical-contextual, and normative framework. This methodological approach allows for an objective approach to the epistemological levels and the development of representative graphs of the relational and correlational models. (Bryman , 2016)

Subsequently, a comprehensive review of the relevant literature is conducted to develop the methodological framework, which is based on the projection of possible methodological paths that include the type, method, approach, paradigm, procedure, use of techniques and sources, as well as the methodological model. It is important to highlight that this aspect recognizes and recommends applicable paths, according to the disciplinary fields possibly addressed in most universities. (Chiavenato, 2019)

With the description of the expected results, bibliometrics as a collection technique for a quantitative analytical derivative, as well as the importance of the bibliography, budget, and schedule as a fundamental part, the way is opened to the final discussions, which involve advances in artificial intelligence (AI) as support tools and not as the end of the research processes. (Cook & Campbell, 1979)

Approaching the limitations for the construction of a systematic and relevant research proposal .

While various manuals and extensive documents on research methodology can be found, in the university environment, one frequently encounters broad problems of technical and epistemological foundation regarding the minimum elements that a research proposal should contain, based on rigor, systematicity, consistency, and logic of execution. (Geertz, 1973)

The statements made by some authors known as methodologists, with extensive experience in the field, regarding the "recipes" for applying structural guidelines in the development of formative and scientific

research, underpin the construction of this article around the convergence of arguments that express the need for greater clarity when guiding the development of proposals in classrooms and different settings. (Hernández et al., 2014)

Based on the above, and using a documentary review methodology, critical analysis techniques, general and specific literal self-questioning, and theoretical scanning, questions are posed that arise from the most frequently cited uncertainties in the applied documents. This methodology was applied based on 100 documents obtained from different repositories, of which 50 were retained, based on inclusion criteria regarding similar categories; 40 of these documents include all the elements used in this document. (Kerlinger & Lee, 2000)

1. How the research topic is configured.

It is crucial to understand that the research process does not emerge out of nowhere. It is a stage in which the student, throughout their training, has shown a growing interest in certain topics and/or branches of their profession. What catches their attention, seems interesting, and produces a "pleasure" in their subjectivity, what allows them comfort and thought in their field, is called a "topic." (Yin, 2018)

The process of contextualizing a topic is fundamental to defining its scope and delimiting its content. It involves identifying the specific problem to be addressed within the topic from the perspective of the profession under study. The simple fact of not knowing the topic is a clear sign of its importance as a basis for the research being conducted. This aspect of "not knowing" is known as the "knowledge gap" or "axis of problematization." (Tashakkori & Teddlie , 2003)

"Problematizing" is a term frequently used in various texts to express the action of exposing and clarifying a specific topic, highlighting its purposes, its relationship to other topics, and its problematic nature. In other words, it is a reflective process that invites questioning and delving deeper into the topic, either from an explanatory perspective or from the author's own experience. In short, "problematizing" is an essential strategy for approaching unfamiliar topics and understanding their relevance and impact. (Popper, 1959)

It is crucial to understand that, when reflecting on the topic in terms of context, delimitation, application, and other similar aspects, the idea formed in the researcher's mind is called a "hypothesis." In this sense, preliminary conjectures are made about how the topic and its contextualization can generate, resolve, and/or expand problems. (Patton , 2015)

2. The role of background

In the field of scientific research, frontier data constitutes a set of previous findings and studies that serve as a starting point for exploring new topics. These data, which are characterized by their integrity and coherence, are the result of rigorous scientific processes and are published in specialized databases such as SCOPUS, WOS, DIALNET, DOAJ, SCIELO, REDALYC, among others. In scientific research, Boolean operators such as "AND," "OR," and "AND NOT" are used to direct searches accurately and efficiently. (Shadish et al., 2002)

It is important to emphasize that the background information should not be examined in a fragmented manner, but rather as a cohesive whole that reflects the evolution and development of the topic over time. On the one hand, academic background information provides certainty about the inclusion of the topic in the various educational processes at the institutional, local, regional, national, and international levels. On the other hand, research background information allows us to recognize that the international

scientific community has validated the relevance of the topic in the specific disciplinary field, which contributes to the advancement of knowledge and the generation of new ideas. (Van Dijk, 2008)

In argumentative writing, especially in the field of scientific reports, clarity and precision are recommended for each section of the research proposal or draft. This structure should include a brief introduction, a detailed description of the contents, a thorough analysis of the arguments presented, and a conclusion that concisely summarizes the main ideas. The writing structure for each section has a clear, specific, and concise "guiding thread" that does not leave ideas "half-baked" (major premise, minor premise, and conclusion - syllogism). (Van Manen, 2016)

Taking into account the above, it is recommended that each consultation—academic and research—take into account the title, author(s), the fundamental objective of the document (graduate thesis, thesis, or article), the methodology, the main results, and, most importantly, the "contribution" of said document to the development of the proposal and/or preliminary project. (Salcedo et al., 2024)

This issue is addressed in each document; ideas, authors, and/or contributions are analyzed, selected, and condensed, and presented as an approach to the "state of the art," which is nothing more than a recognition of the background analyzed and related to the current theories and epistemic foundations of the subject. (Romero et al., 2024)

The importance of background information in formulating solid arguments is recognized. It suggests that the topic in question has been studied in various works published in recent years, which supports its relevance, coherence, relevance, and importance. This background information—assuming the hypothesis as a countervailing idea—provides a framework for validating the development of the proposal and/or draft. Consequently, progress is evident in terms of coherence, which is reflected in the formulation of the problem. (Urriago et al., 2024)

3. The Statement of the Problem and its Components

While problem-solving may be one of the most arduous tasks, it is argued that problem formulation implies clarifying what will be considered the "object of research." In this sense, when discussing the "knowledge gap," it is proposed that the object of research is what generates the main problem. In this way, explicit and unambiguous reference is made to the "what" of the proposal or preliminary project, that is, to the research objectives, what is intended to be resolved, understood, interpreted, explained, discovered, analyzed, among other actions that fit into a research proposal. (Habermas, 1984)

Although the problem statement should follow the structure outlined later in this paper, it is recommended that it encompass a minimum of five stages: description, delimitation, definition, problem matrix, and formulation. This last stage deserves special attention and will therefore be addressed in a separate section in relation to the "research question." The above constitutes a deductive approach to the research problem, establishing the "issues" addressed as the so-called "variables" and/or "categories" (Feyerabend, 1975).2

The application of deductive logic entails contextualizing the writing in a general way, explicitly introducing the reader to the topic. It also implies tempering the discussion to the specific setting in which the research is intended to be conducted, as well as delimiting the problem considered as the "object of study," the knowledge gap, and/or the problematic issue of the "hypothesis." (Lyotard, 1984)

In other words, the problem that the proposal and/or draft aims to address is clearly expressed. To develop the causality matrix, it is suggested to review models such as the problem tree, the Ishikawa

[2] It should be clarified that quantitative proposals generally express variables, while qualitative ones, categories-

diagram (also known as a fishbone diagram), and/or related tools, which strengthen the causal relationship between the variables and/or categories proposed in the problem formulation. (Creswell & Poth , 2018).

a. Schematic supports to strengthen the problem statement

Although it is not an indispensable requirement, it is beneficial for the reader of the proposal and/or preliminary project to clarify what is written in the research problem, allowing, from a schematic perspective, to obtain a broader view of the research problem. (Flick , 2018)

For its development, one can resort to individual creativity or the use of tools such as the "problem tree", the "objective tree" and/or the problem flowchart and/or the gridded cause-effect-consequence matrix (Agresti & Finlay , 2009). The purpose of this approach is to facilitate the identification of the relationships between the categories and/or variables that constitute the research problem. Below are graphic examples that illustrate this methodological approach.

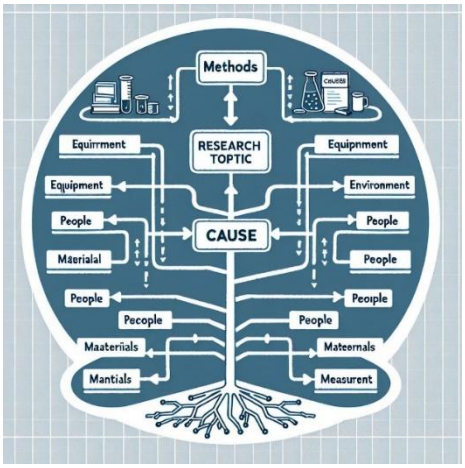
Table 1- Cause – Effect – Consequence Matrix

Cause	Effect	Consequence
Lack of financial resources	Difficulties in financing research projects	Low scientific production and limitations in the development of new knowledge
Poor training in research methodology	Projects with methodological deficiencies	Lack of rigor in the results and questions about the validity of the findings
Weak research culture in educational institutions	Low motivation of students and teachers to conduct research	Lack of innovative projects and decreased academic impact
Limited access to scientific databases	Restrictions on literature review and theoretical update	Lack of solid theoretical foundation and risk of obsolescence in methodological approaches
Bureaucratic barriers to project approval	Delay in the execution of investigations	Lack of motivation in the research community and loss of funding opportunities
Lack of public policies that promote research	Institutional disinterest in supporting scientific initiatives	Countries with low innovation rates and poor international competitiveness
Lack of training in academic writing	Difficulties in writing and publishing results effectively	Low rate of publications in indexed journals and poor visibility of the results obtained
Lack of knowledge of ethical standards in research	Violation of ethical principles in project development	Retraction of published articles and loss of institutional credibility
Lack of interdisciplinary work	Partial and limited views on complex problems	Incomplete solution proposals and low social impact
Lack of institutional support	Lack of resources and logistical support for researchers	Lower quality of projects carried out and difficulties in continuing previous research

Source: Prepared by the authors from a literature review

The table above schematically presents a practical example of a cause-effect-consequence matrix applied in a research setting, to demonstrate its educational contribution to understanding the research problem. It is most often recommended for work that promotes a "positive" or causal explanation (Bryman , 2016).

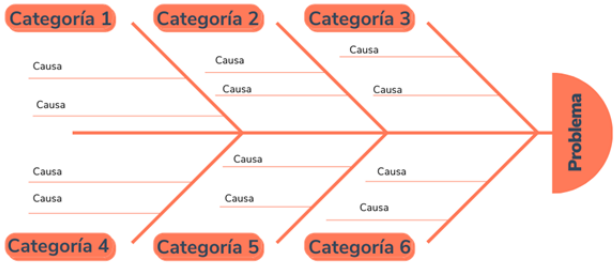
Figure 1 - Problem Tree



Source: Gemini IA. https://gemini.google.com/app/3cd505618c547ce7

The previous graphic serves the same didactic purpose of representation as an example, using the same categories. The problem tree is a recommended tool for work on relationships, correlations, and/or category analysis (García, 2016).

Chart 2 - Ishikawa Matrix (Fishbone)



Source: Copiot IA https://m365.cloud.microsoft/

The graph continues to provide an example of the same topic, using a different schematic design. The Ishikawa diagram, like the causality matrix, is typically used for studies that promote a positive or consequential perspective (Kerlinger & Lee, 2000).

b. The formulation of the problem as the fundamental axis of the research proposal

The formulation of the problem, identified in academia as the "research question," must meet certain criteria that characterize this type of question. (Yin, 2018)

These criteria relate to the action, the object or subject of study, the delimitation, the context, the spatiality, the frequency, and the structure of the question. It is important to avoid simple answers such as "yes" or "no" when formulating this question. (Tashakkori & Teddlie , 2003)

In this sense, the presentation of subjective or ideal conditions is discouraged, such as the following: "Will it be possible to carry out a beautiful bibliographic review to investigate academic production in educational sciences between 2019 and 2025?" (Popper, 1959).

However, it is recommended that the semantic structure be as explicit as possible, avoiding ambivalence and clearly defining the action the researcher will seek to carry out in the development of their project. It is crucial to recognize that one of the keys to maintaining logic between the different sections of the research is that, in general terms, the research question is projected as the overall objective of the research. Otherwise, a question would be posed to a different object than the one intended to be resolved. (Patton , 2015)

As mentioned previously, the relevance of the research question lies in its ability to define the overall purpose of the research itself, that is, its direction. Once established, the research question must have a clear and precise structure; otherwise, it would become research lacking a defined objective (Field, 2013) [3]

c. Systematization in favor of the problem-posing route

By formulating the research question from the previously examined perspectives, the possibility opens up for the generation of additional questions, such as: How could this formulation be resolved? This underscores the need to continue deepening the analysis by generating questions derived from the initial question. In essence, it involves reflecting on the scope of the lower-level questions necessary to adequately address the larger research question. (Van Dijk, 2008)

A superficial and simplistic observation could give the impression of greater complexity than it actually implies. Therefore, it is pertinent to suggest that, given that the formulation is provided with a governing verb, auxiliary verbs are used in the systematization process that, in a sequence of activities, enable the achievement of the objectives necessary to reach and cover the activities required to obtain the category in question. (Van Manen, 2016)

In more accessible terms, this involves formulating a minimum of three (3) and a maximum of four (4) relevant questions to address the research problem. Similarly, the research question establishes an intimate connection with the general objective, while the systematization is derived from the specific objectives and their relationship is based on the causality matrix (Salcedo et al., 2024) [4].

d. A determining aspect, the scope of the approach and its limits

It is imperative to recognize that the problem statement broadly and explicitly shows the object of the proposal and, in part, allows for an inferential approach to its delimitation. In cases where the structure shows a separate delimitation, the intention is to guide readers regarding the scope, that is, how far the problem will be covered, to explain the temporality, periodicity, and/or range of impact on which the research will revolve, and the space, which refers to the physical and/or digital setting on which the research will focus (Urriago et al., 2024).

4. Relevance of the systematic expression of the Research Objectives

In this document, an effort has been made to present the explanations in an accessible and basic manner. In this sense, the objectives outlined in the development proposal are divided into two categories:

[3] Unless it is a question of methodologies for the emergence of the phenomenon, theoretical construction or "non-methodical" configuration.

[4] The systematization of the problem expresses how the development of the research question will be approached in stages, since each question that arises will be the one that is intended to be resolved in order to fully develop the proposal.

general and specific. The general objective refers to the purpose of the research, while the specific objectives relate to the methodology and specific actions that will be implemented to achieve the main goal. (Habermas, 1984)

It is crucial to highlight that the relevance of these objectives is comparable to that attributed in the formulation of the problem and the systematization, since the general objective is outlined by the research question, while the specific ones are defined through the systematized questions (Feyerabend, 1975) .[5]

Intuitively, one could assert that the general and specific objectives are related to formulation and systematization. However, in this case, by omitting the question marks, the guiding verb is retained in the infinitive. The use of additional verbs is not recommended so that the actions proposed are clearly expressed and do not give rise to ambiguity. (Lyotard, 1984)

In summary, it is recommended that objectives be framed within a scale ranging from three to four, recognizing the relevance of the infinitive guiding verb, without the presence of other verbs that may denote additional actions, thus ensuring clarity in the definition of the object, action, context and scope (Creswell & Poth , 2018).[6]

5. Understanding the relevance of justification

Overall, there are significant uncertainties regarding the justification of the proposal, based on the premise that the approach has already presented the problem. The distinction lies in that the approach simply presents the problem, while the justification argues for it. Consequently, it is evident that the approach's orientation recognizes the relevance of the object, the actions to be implemented to address it, the context and other necessary actions, as well as the theories and practical forms of action (Flick , 2018) and Martinez et al., (2024).

In academic discourse, the constant justification of arguments is a recurring practice. In the context of a research process, it is recommended to begin developing the text from the basic questions that constitute the basis of all reasoned inference. (Agresti & Finlay , 2009)

In this regard, it is suggested that an introductory text be developed to encourage responses to fundamental questions such as "What?", "How?", and "When?". In the field of scientific research, it is recommended to begin the process by formulating basic questions that form the basis for reasoned inference. These questions should address aspects such as the object of study, the subject of study, the context, the space, and the purpose of the research. (Babbie , 2010)

It is crucial to emphasize that the relevance and importance of the problem are fundamental aspects that require deep reflection, as they involve its natural, social, technical, technological, professional, scientific, and epistemic value, among others. (Bernal, 2010)

The question that underlines the above is suggested for the development of this section: why is it relevant to address this type of problems from the different academic programs? (Bryman , 2016)

This question must be addressed on at least three levels, as explained in the previous section. First, it is crucial to explain the relevance of these issues to the institution. Second , it is necessary to clarify the

[5] A very common example is that the problem formulation reads "How to analyze the climatic conditions of Valle del Cauca, over a period of 5 years?", in which case the general objective would be "Analyze the climatic conditions of Valle del Cauca, over a period of 5 years"

[6]The general objective should have a verb that ranks higher than the verbs in the specific objectives. To achieve this, it is recommended to review the taxonomies of authors such as L. Dee Fink , Marzano and Kendall, or the more well-known Bloom.

importance of these issues to the profession as a whole. Finally, it is imperative to highlight the relevance of these issues in the specific context in which the research will be conducted. (Chiavenato, 2019)

In the field of scientific research, it is imperative to recognize that all research is structured according to a systematic guiding principle. In this sense, practical justification implies the need for the researcher to explain the relevance of their work in terms of research output. Theoretical justification, for its part, requires arguing the paradigmatic basis on which the problem is founded, considering the possibility of a diversity of theories that may even contradict one another. (Cook & Campbell, 1979)

Consequently, the researcher is forced to adopt a position regarding the theory that will serve as the foundation for his or her arguments. (García, 2016)

Ultimately, methodological justification addresses the reason why the systematization, i.e., the specific objectives, are presented in such a sequence. In other words, the manner in which the specific objectives are established indicates the research strategy the researcher has selected, and prudence must be used to justify why this path is the most appropriate for carrying out their proposal (Geertz, 1973).

1. The Reference Framework as an Epistemological, Categorical, Contextual and Normative Support for Research

The framework encompasses the compendium of theoretical and epistemic constitution, the categorization of terms and concepts, the contextual and historical reference, and the support of legal and normative normativity. Consequently, it serves as the scientific and legal evaluation foundation upon which research should be based (Kerlinger & Lee, 2000).

a. The Theoretical Framework and its constitution

The theoretical framework is defined as the conceptual structure that serves as the foundation for research. It is characterized as a body of knowledge consolidated by the written contributions of authors recognized for their expertise in the subject of interest. (Yin, 2018)

It is recommended that, in developing the theoretical framework, various authors and/or theories that have attempted, to date, to explain the problem and/or research topic be recognized. The theory is described to explain its contents, broken down, explained, and the key or necessary points that the author(s) wish to highlight are cited repeatedly. (Tashakkori & Teddlie , 2003)

Second, the relationship between the epistemic basis and the research intention is established. Finally, the importance of expressing how the theory contributes to the research proposal is highlighted; that is, the need to consider the author's postulates to explain the problem and the possible research solution. (Popper, 1959)

The theoretical framework is made up of fundamental and auxiliary or secondary theories. In both cases, they are addressed as mentioned above. However, at the end, the relationship, correlation, and contribution of said compendium must be established as a scientific and knowledge necessity within the proposal. The theoretical framework consolidates the epistemic—paradigmatic—tendency of the research (Patton , 2015).

b. The Conceptual Framework and its Categorical Operation

It should be noted that there is a frequent confusion between the Theoretical Framework and the Glossary, although they are notably different concepts, with dissimilar operations within the scope of a research proposal. In the glossary, the author simply references a term and instead describes its meaning through the use of dictionaries and/or encyclopedias. (Shadish et al., 2002)

In contrast, the Conceptual Framework is based on the construction of categories derived from disciplinary, scientific, and/or epistemological references. In other words, the conceptual framework emerges from the concepts that the researcher "generates" from disciplinary experts. (Van Dijk, 2008)

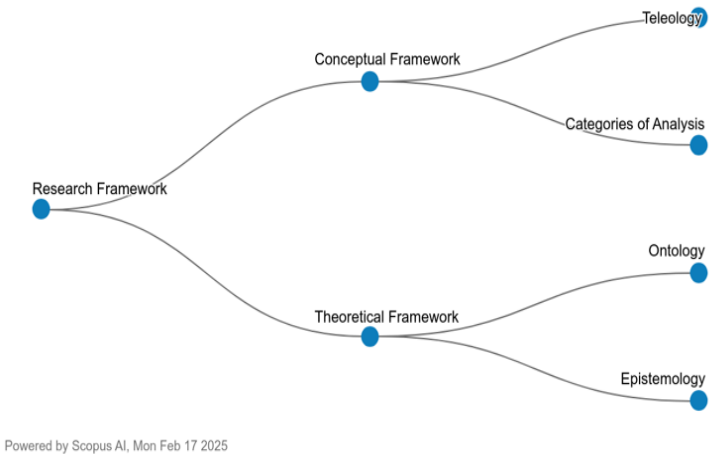
It is recommended that the concept in question be "created" from the recognition of categories provided by at least five experts in the field. This implies that the researcher must consult the theories, scientific, academic, and similar definitions provided by these experts. (Van Manen, 2016)

Based on the aforementioned sources, the researcher must describe, analyze, infer, and create a definition of the category they believe should be included in their work when discussing the concept. The concept is constructed by the researcher, but recognizing the value of experts, a minimum of three and a maximum of five concepts are recommended in the proposal (Salcedo et al., 2024).

c. The Theoretical-Conceptual Model

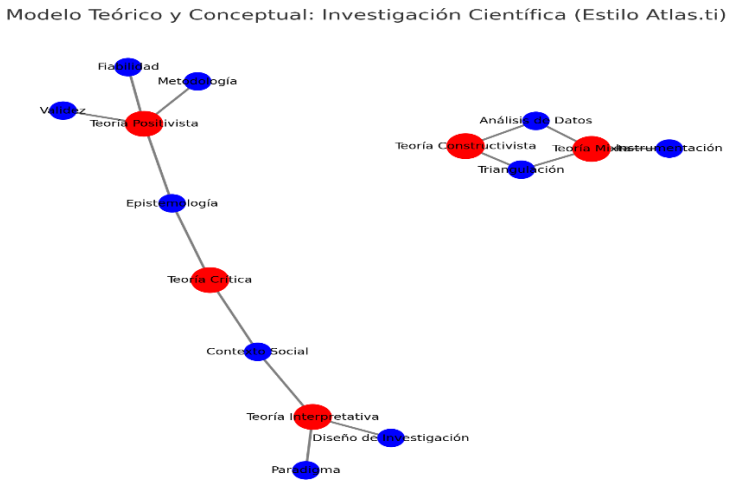
When referring to the conceptual theoretical model, we are referring to the cognitive process of establishing relationships between concepts and theories. These mental schemes, in which the researcher plays a crucial role, manifest themselves as graphic representations that facilitate the process of interpreting the relationships between the different analytical categories and the epistemological foundations of the proposals (Urriago et al., 2024). The following section presents a reference taken from the Scopus database , which notably illustrates this phenomenon.

Chart 4 - SCOPÚS IA Categorical Model



The graph shows the networks of theoretical relationships woven from the authors' construction of analytical categories and epistemic relations in relation to an example focused on the construction of a theoretical framework. This is a light style, which can express the categories that will be supplied in the theoretical compendium (Habermas, 1984). Schemes applied with other AIs, or derived from the researchers' own creativity, can also be included, for example:

Chart 5 - Theoretical Conceptual Model (As a mind map)



Source: Copilot IA https://m365.cloud.microsoft/chat/?fromcode

This diagram shows the relational networks between theories and categories derived from concepts. This tool is recommended for proposals in which this tool can demonstrate the researchers' intention or intuition when defining their theoretical and conceptual compendium (Creswell & Poth , 2018).

d. The contextual framework and its relationship with the historical framework

To preserve the methodological coherence of the proposal, it is imperative to clarify that the terms "Contextual Framework" or "Historical-Contextual Framework" are frequently used. As its name suggests, this framework aims to consolidate the context of the research problem, expanding its description and delimitation. However, in this case, it focuses on clearly describing the physical and/or similar space on which the research problem is based (Flick , 2018).

For illustrative purposes, a problem applied in the Cauca Valley would require describing its composition, population, among other aspects, enabling whoever reads the document to infer the conditions of the place and the chronology of the problem, despite not being familiar with them (Agresti & Finlay , 2009).

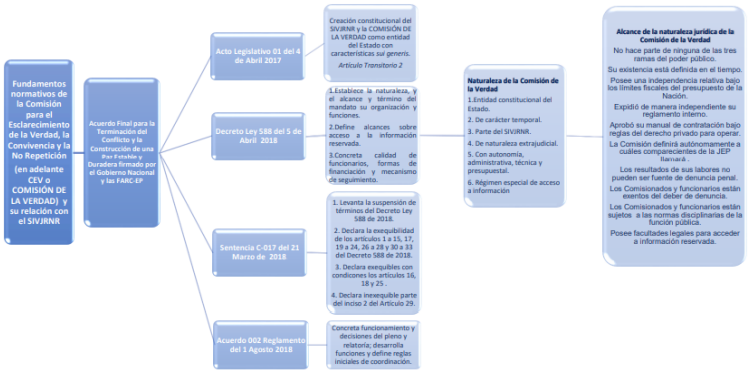
e. Recognition of the Regulatory Framework and its requirement for ethics

One of the most common inaccuracies in the construction of this framework is to suggest that it is simply a matter of naming laws. It is not exclusively a matter of random laws or articles believed to be part of the legal system; in fact, it is the result of the regulatory review that addresses the research problem. (Bernal, 2010)

It is necessary to approach it with caution and precision, considering the context in which the research problem is developed. That is, it is necessary to take into account that there are international, national, regional, municipal, and institutional standards—in some cases—which will serve as a baseline for the proposal. Although all standards are relevant, the ethical, disciplinary, professional, and technical components related to the research process itself cannot be ignored. (Bryman , 2016)

The possibility of promoting the implementation of a "normogram" is proposed, understood as a set of rules governing the development of laws that will be adopted within the framework of the project (Chiavenato, 2019). This approach is illustrated in the following graphic:

Graph 6 - Normogram Scheme



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The above graphic expresses a graphic recommendation for presenting a normogram that allows for normative relationships and distinctions within the context of a research proposal. It should not be forgotten that this component can also display the project's ethical guidelines (Geertz, 1973).

6. The methodology, its structure, components and contribution of rigor

First, it should be noted that the concept of methodology has undergone a progressive and natural evolution over time, until it acquired its current form of "the manner and/or steps" to be followed to develop the research proposal. (Kerlinger & Lee, 2000)

It is imperative to consider that the research objectives have undergone significant progress in terms of methodology. The proposal of specific objectives in a particular sequence constitutes a manifestation of the methodological strategy for addressing and fulfilling the general objective. (Montgomery, 2017) and (Martinez et al., 2024),

Methodology encompasses aspects such as type, method, approach, paradigm, sources and technique, information processing, methodological procedure, and approach framework. (Yin, 2018)

From this perspective, misinterpretations may arise, and a perception of greater complexity than actually presented may arise. The situation is, in essence, quite simple. When referring to the type of research, it is crucial to refer to the disciplinary field in which it is intended to be carried out, since this allows us to determine whether experimentation will be carried out, an explanatory or descriptive approach will be adopted, the process will be documented, or, on the contrary, a phenomenon, generally of a social nature, will be allowed to emerge, or a theory will be proposed and constructed over time. In this same sense, it is possible to explore a topic that other researchers sometimes present in a more complex way (Tashakkori & Teddlie , 2003).

a. Types of Research, their fields, forms and margins of materialization.

In the field of scientific research, it is imperative to understand the bibliographic reference that serves as a starting point for the methodology used. Generally speaking, when undertaking empirical actions, such as experiments, one could be assuming a study of an experimental nature, characteristic of factual and formal sciences. On the other hand, when one intends to carry out empirical actions from theoretical guidelines that one wants to compare with reality, that is, to approach experimentation, one may be faced with a quasi-experimental type, typical of applied technologies and/or empirical disciplines (Patton , 2015).

When an explanation is sought through logic, mathematics, formality, or experimentation with objects, this may be explanatory work. These works are generally framed within the formal sciences, engineering, and factual sciences with field experimentation (Field, 2013).

Research typology can be identified by identifying the purpose of compiling experiences, systematizing them, and promoting them from a theoretical comparative perspective. This procedure is commonly referred to as "descriptive research" and is frequently used in the fields of social sciences and humanities (Shadish et al., 2002).

b. Types of research with positive promotion.

In the field of scientific studies, the diversity of disciplines and the range of methodological approaches make it possible, under certain circumstances, to apply the guidelines of one method or another, depending on the characteristics of the research problem. However, in the context of interdisciplinary convergence or confluence, it can be stated that the field of documents represents a space (and, occasionally, a technique) implemented in various areas with the purpose of establishing background information or fostering theoretical discussions (Van Manen, 2016).

i.Types of documentary relationship

From a documentary perspective, these works can be broadly related to descriptive types, as their ultimate goal is to produce a systematic report resulting from the process. However, some authors recommend establishing a distinction between documentary types (Romero et al., 2024).

The bibliographic documentary, on the other hand, focuses on the critical review of disciplinary, theoretical and academic documents, as well as the results of research carried out by other authors (Urriago et al., 2024)

Bibliometric documentation, for its part, is emerging as an area of interest in the digital age, where the advancement of specialized databases and data processing packages allow for the handling of large volumes of data. These volumes facilitate the identification of trends, the configuration of relationships, and the acquisition of broad possibilities and quantitative analysis. These works are highly recommended in all disciplines for establishing background information and state-of-the-art data (Wooldridge , 2016).

In the field of academic research, documentary production is characterized by a variety of typologies, each with its own specific purpose. These include analytical derivations, critical analyses, reviews, boundary reviews, and ethnographies, among others. The importance of classifying documents according to their analytical intent is essential to ensuring the accuracy and validity of the results (Habermas, 1984).

ii.Types of research with social and humanistic action

Within the scope of non-positive order types, defined as those in which the object or subject of study has been previously determined, phenomenological types are distinguished. In the latter, the researcher's

participation may or may not be present, giving rise to a distinction between "participant action" and "action without participation." In these cases, the phenomenon is anticipated to emerge from the experiences of the group or subjects of observation and documentation. In other words, the phenomenon is expected to act as a catalyst for the research process, emerging autonomously. Similarly, phenomenological types can be identified through the grounded theory method, both widely used in studies of social order (Lyotard, 1984) .

c. Research Methods in the different disciplinary fields

Through a comparative document review, it is possible to categorize the differentiating aspects between "Methodologies and Methods." This categorization allows for a rudimentary understanding of methods as specific strategies for conducting research. In this context, various methodological categories are proposed, such as methodologies and methods, which encompass the different forms and ways of conducting research. Among the most frequently applied methodologies in research proposals are inductive, deductive, relational, correlational, analytical (literary, discourse, image), review, systematic review, systemic review, methodological anarchist approach, and ethnographic approach, among others (Denzin & Lincoln, 2018). Based on the documents analyzed, the following matrix is developed, which expresses methods, a brief explanation of them, and their fields of application.

Table 2 – Characterization of Methods, their components and application

Research Method	Brief Explanation	Application
Inductive Method	Part of specific observations to reach general conclusions (Babbie , 2010; Creswell, 2014).	Qualitative: It is used to generate theories from observations and experiences (Kerlinger and Lee, 2002).
Deductive Method	It starts from general theories to reach specific conclusions through logic (Kerlinger and Lee, 2002; Creswell, 2014).	Quantitative: It is based on previous hypotheses and theories, applying specific reasoning (Babbie , 2010).
Relational Method	It studies the relationship between two or more variables to determine if there is a significant link (Hernández et al., 2014).	Quantitative: Allows to identify correlations and associations between numerical variables (Field, 2013).
Correlational Method	It determines the degree of association between variables, without establishing causality (Field, 2013; Creswell, 2014).	Quantitative: Uses statistics to measure the degree of relationship between variables (Agresti and Finlay , 2009).
Analytical-Literary Method	Analyze literary texts to interpret meanings and narrative structures (Van Dijk, 2008; Flick , 2004).	Qualitative: It focuses on the interpretive analysis of texts (Fairclough , 1995).
Discourse Analytical Method	Studies discourses to identify ideologies and communicative structures (Van Dijk, 2008; Fairclough , 1995).	Qualitative: Allows us to analyze deep meanings in speeches (Rose, 2012).
Image Analytical Method	Examines images to interpret messages and symbolism (Rose, 2012; Van Leeuwen , 2001).	Qualitative: It focuses on the subjective and cultural interpretation of images (Van Dijk, 2008).
Review Method	Compiles and analyzes existing information on a topic (Kitchenham , 2004; Grant and Booth , 2009).	All: It can cover both qualitative and quantitative research, depending on the focus of the analysis (Hart, 1998).
Systematic Review Method	It compiles studies in a structured way to answer specific questions (Petticrew and Roberts, 2006; Kitchenham , 2004).	All: Combines qualitative and quantitative results to identify patterns (Grant and Booth , 2009).
Systemic Review Method	It integrates previous studies considering theory and context (Grant and Booth , 2009; Hart, 1998).	All: Provides a holistic view by analyzing diverse sources (Kitchenham , 2004).
Methodological Anarchist Method	It combines heterogeneous approaches according to the needs of the problem investigated (Feyerabend, 1975; Denzin and Lincoln, 2011).	All: Its flexibility allows for the integration of qualitative and quantitative methods depending on the context (Tashakkori and Teddlie , 1998).
Ethnographic Method	Study communities in their natural context to understand practices and customs (Hammersley and Atkinson, 2007; Geertz, 1973).	Qualitative: Focused on deep understanding of cultural contexts (Denzin and Lincoln, 2011).
Experimental Method	Manipulates variables to observe effects (Campbell and Stanley, 1966; Shadish et al., 2002).	Quantitative: Seeks to establish causal relationships by controlling variables (Kerlinger and Lee, 2002).
Quasi-experimental Method	Similar to the experimental, but without rigorous random assignment (Cook and Campbell, 1979; Shadish et al., 2002).	Quantitative: Allows the study of phenomena where total control is not possible (Campbell and Stanley, 1966).
Descriptive Method	Describes characteristics or situations without manipulation (Hernández et al., 2014; Creswell, 2014).	All: It can be qualitative or quantitative depending on the type of data collected (Field, 2013).

Source: Prepared by the authors from a literature review

The preceding table allows for an explicit categorization of methods and their feasibility for application from a quantitative, qualitative, or mixed perspective. The dynamics of such use are explained in each context of use. This demonstrates that there are methods applicable to all three categories, and that there are specific recommendations for each approach in certain cases (Babbie , 2010).

d. Research approaches and the expansion of the term “mixed”

It is imperative to consider that the research approach is constituted from the underlying intention in the formulation of the problem, the route of action promoted from the objectives, the way in which the problem statement is presented, as well as the logic of referencing the background and the theoretical and conceptual consequence of the frameworks with the same name (Bryman , 2016)

When referring to the approach characterized by the application of statistical modeling methods, mathematical explanation, induction of standard propensity rules, confirmatory demonstration, exact trend prediction and/or use of percentage arguments, the "quantitative" approach is being referred to (Chiavenato, 2019).

On the other hand, if the objective is to describe social interactions, interpret mostly social phenomena, construct categories and/or conceptualize from relationships and theories of meaning, projecting arguments by inference and deduction, a "qualitative" approach is being assumed (Cook & Campbell, 1979).

When the application of both logics—qualitative and quantitative—is intended, it can be conceived as a mixed type of research. If the quantitative condition prevails over the qualitative, it can be expressed as " Quanti with qualitative application" or " Quanti -quali." On the other hand, if it is the inverse and the qualitative is the one that predominates, it can be recognized as "Quanti with quantitative application " or " Quanti -quali" (García, 2016).

It is important to emphasize that the approach adopted in the research is closely related to the projected results, as it is possible to explore different strategies to address the same problem and obtain dissimilar results. In both cases, these results have the necessary rigor and recognition of validity (Geertz, 1973).

e. How to understand and apply research paradigms and their relationship to epistemological positioning and approach.

This research addresses the relevance of research paradigms, focusing on defending the analysis resulting from the background review, the relationship between concepts, and the assumption of the theories within the theoretical framework. This aspect is based on the so-called "Epistemological Positioning," which is structured based on the aforementioned, when projecting the action that accompanies the approach for project execution. (Kerlinger & Lee, 2000)

Among the most representative paradigms are positivist, postpositivist, interpretive, critical, constructivist, postmodern, and pragmatic (Montgomery, 2017). To identify the classification of disciplines and, consequently, the predominant trend of their paradigm, we recommend referring to the explanatory table below:

Table 3 – Epistemological Positioning

Paradigm	Method	Approach	Explanation
Positivist	Quantitative	Objectivist	It seeks objectivity and the empirical verification of hypotheses. It uses quantitative methods such as surveys and experiments to generate measurable and reproducible data. Its objective is to discover general laws that explain phenomena (Hernández et al., 2014).
Postpositivist	Quantitative and Qualitative	Objectivist-Critic	It recognizes that knowledge is neither absolute nor totally objective. Although it follows quantitative methods, it admits the possibility of error and uncertainty. It promotes the

			triangulation of methods and the critique of one's own results to minimize bias (Flick , 2018; Creswell & Poth , 2018).
Interpretative	Qualitative	Subjectivist	It focuses on understanding social reality from the perspective of individuals. It uses interviews, participant observation, and case studies to capture complex social meanings and contexts (Denzin & Lincoln, 2018).
Phenomenological	Qualitative	Subjectivist	It explores people's subjective, lived experiences, seeking to understand the meaning they attribute to their experiences. It uses in-depth interviews and thematic analysis to capture the essence of phenomena from the participants' perspective (Moustakas , 1994; Van Manen, 2016).
Critical	Qualitative and Quantitative	Transformer	It seeks not only to understand reality, but also to transform it. It focuses on emancipation and social equity, addressing structural problems through case studies, discourse analysis, and participatory techniques (Habermas, 1984; Kincheloe & McLaren, 2005).
Constructivist	Qualitative	Subjectivist	Considers knowledge to be a social construction, not an objective truth. It uses qualitative methods such as focus groups and open-ended interviews to understand how people interpret and construct their reality (Guba & Lincoln, 1994; Schwandt , 2000).
Postmodern	Qualitative	Critical	It questions the existence of universal truths and focuses on the analysis of discourses, cultural practices, and symbolic processes. It uses methods such as critical discourse analysis to challenge dominant narratives (Lyotard, 1984).
Pragmatic	Mixed	Eclectic	It integrates quantitative and qualitative methods according to the nature of the problem under investigation. Its objective is to find practical and useful solutions, adapting to the context rather than following a rigid theory (Tashakkori & Teddlie , 2003).
Analytical	Quantitative	Rationalist	It focuses on the logical decomposition of phenomena to analyze their components and relationships. It uses critical and logical analysis, prioritizing a clear and well-founded conceptual structure, especially in scientific research (Popper, 1959; Lakatos, 1978).

Source: Prepared by the author based on a conceptual comparison.

The table above strives to systematize the recognition of the different research paradigms, traced from the documentary review, expressing their relationship with the methods and approaches, and referring to a brief explanation from the analyzed theoretical perspectives. It can be inferred as one of the most relevant contributions to overcoming the doubts that this aspect generates when presenting research proposals (Popper, 1959).

f. Assessment of Sources and Research Techniques according to the fields of knowledge

This study addresses the foundations of a research process, focusing on the methodology used for information gathering. In this regard, it addresses the concept of "sources," understood as the set of data collected through rigorous and systematic methods. Collecting information personally and directly is considered a practice that guarantees greater objectivity in subsequent analysis (Field, 2013).

In this context, various categories of sources are distinguished, including primary, secondary, tertiary, and ultimately fourth- and fifth-level sources. The use of sources no higher than the third level is recommended, preferably in the form of applied, analytical, and/or comparative work, to ensure the validity and reliability of the results (Shadish , Cook, & Campbell, 2002).

The procedure used to obtain these resources is defined as "fundraising techniques." These techniques encompass various methods, such as interviews in their various forms, observation, surveys, and documentaries, among others (Van Dijk, 2008).

Applying the same methodological technique as the present research, a grid is presented that allows identifying the sources and techniques, in accordance with the fields, giving an explanation regarding the field-paradigm relationship – forms of collection and literary reference from which the inferences are taken (Van Manen, 2016).

Table 4 – Research Techniques and Sources

Field of Research	Paradigm	Research Techniques	Description	Collection Methods	References
Social	Interpretive - Critical	Participant Observation Ethnographic Interview Focus Groups Discourse Analysis	Understand cultural and social phenomena through qualitative techniques, interpreting meanings in specific contexts.	- Field record - Recordings - Transcripts	(Hernández et al., 2014; Flick , 2018)
Scientist	Positivist – Postpositivist	Experimentation Quantitative Surveys Statistical Analysis Scientific Case Studies	Empirical verification and quantification of data to establish causal relationships or correlations.	- Questionnaires - Mathematical models - Data analysis	(Sampieri et al., 2014; Creswell & Poth , 2018)
Education	Constructivist – Pragmatic	Competency Assessment Pedagogical Field Journal Classroom Observation Analysis of Educational Documents	Evaluation of learning and teaching processes using mixed techniques to reflect on pedagogical practices.	- Diagnostic tests - Teacher interviews - Questionnaires	(Bernal, 2010; McMillan & Schumacher, 2014)
Engineering	Positivist – Pragmatic	Computer Simulations Mathematical Models Process Analysis Materials Testing	Evaluation and modeling of physical or technological phenomena using calculations, simulations and experimental tests.	- Simulation software - Data analysis - Field tests	(Montgomery, 2017; Rojas & Sánchez, 2020)
Health Sciences	Positivist – Postpositivist	Clinical Trials Epidemiological Studies Clinical Case Analysis Laboratory Diagnostics	Research into the causes, effects, and prevalence of diseases using experimental and observational methods.	- Medical records - Diagnostic tests - Health questionnaires	(Last , 2012; Gordis , 2014)
Economic Sciences	Positivist – Critic	Econometric Analysis	Quantitative analysis of economic phenomena using statistical techniques, data modeling, and trend analysis.	- Financial databases	(Gujarati & Porter, 2010; Wooldridge , 2016)

		Market Studies Socioeconomic Surveys Financial Prediction Models		- Surveys - Predictive models	
Administrative Sciences	Pragmatic – Critical	Business Case Studies Administrative Audits SWOT Analysis Work Climate Surveys	Evaluation of organizational practices and decision-making through management analysis and business diagnosis.	- Management reports - Employment questionnaires - Process analysis	(Koontz & Weihrich, 2012; Chiavenato, 2019)
Accounting Sciences	Postpositivist – Pragmatist	Financial Analysis Accounting Audits Cost Studies Review of Financial Statements	Analysis of accounting records to assess the financial situation of organizations, using quantitative and qualitative techniques.	- Accounting documentation - Audit reports - Financial statements	(Ramírez & Tua , 2016; Vélez, 2019)
Legal	Critical – Analytical	Analysis of Jurisprudence Study of Standards Interview with Jurists Observation in Trials	Critical analysis of judicial and regulatory decisions, interpreting the impact of laws in specific cases.	- Sentences - Legal regulations - Interviews with experts	(Tamayo, 2014; García, 2016)

Source: Prepared by the author based on a conceptual comparison.

The preceding table provides an explicit overview of the methods and methods of information collection, consistent with the primary approaches employed by various disciplines. Although a general review of the techniques and sources applied in different fields of research is possible, it cannot be asserted that the table above expresses exclusivity in their use by field. Therefore, the recommendations presented should not be viewed as limitations for researchers, but rather as guides that can complement their collection and analysis processes (Urriago et al., 2024)

Why is information processing an ethical concept?

In the field of information management, the importance of maintaining ethical criteria that guarantee impartiality, objectivity, and respect in data processing is highlighted. These principles are complemented by protocols for confidentiality, care, and recognition of information, which serve as the foundation for generating reliable analyses (Habermas, 1984).

It is imperative to consider that, when working with human sources, validation protocols stipulated by the institutions' ethics committees must be implemented. Among the most common elements are informed consent and instrument validation reports from experts (Feyerabend, 1975).

In accordance with the principles established above, validations are accepted through the following procedures: comparative referencing, theoretical referencing and similar application of case study (Lyotard, 1984).

In all cases, the importance of the researcher maintaining the accuracy of the information is emphasized. It is observed that the clearer the protocols and procedures for confirming information, the greater the likelihood of recognizing research results as genuine contributions (Creswell & Poth , 2018).

g. The methodological procedure and its configuration in the Research Phases

It could be argued that by referring to the research phases, the value promise established by the specific objectives and complemented by the methodology is being considered. Likewise, by explicitly describing each activity that will lead to the development of the objective, the necessary and logical thread for fulfilling each objective structure is evident. (Flick , 2018)

In the case of the research phases, these are presented in a more generic and concise manner in relation to what will be developed in each objective, which in turn constitutes each chapter of the project. (Agresti & Finlay , 2009)

Therefore, presenting a description or outline that encompasses both intentions is entirely valid. It is imperative, however, to clarify what activities will be carried out, what information will be obtained, what techniques will be used, and what contributions will be made to the development of the project. (Babbie , 2010)

While it's not necessary to create a research phase outline, this element does provide a broader and more illuminating perspective on the methodology used in each chapter (Bernal, 2010). For illustrative purposes, the following table shows an example of how to formulate an outline for a specific objective:

Table 5 – Example of approach to research stages.

Phase/ Component	Activities	Information Gathering	Analysis Actions	Expected Results	Contribution to the Project	Responsible	Tools
Theoretical Exploration	Identify key concepts of the theoretical framework	Search in books, academic articles and digital repositories	Bibliographic analysis and systematic review	List of fundamental concepts and definitions	Clear conceptual basis for project development	Principal Investigator	Google Scholar , Scopus , Academic Journals
Literature Review	Review previous studies on the construction of theoretical frameworks	Scientific databases, undergraduate theses, research papers	Summary of methodological approaches used in other studies	Comparative report on the different approaches	Identification of useful methods and strategies	Research Assistant	Mendeley, Zotero, Digital Libraries
Conceptual Analysis	Break down the elements that make up the theoretical framework	Methodology texts and academic guides	Development of conceptual diagrams and mind maps	Structural diagram of the theoretical framework	Clear visualization of components and relationships	Academic team	MindMeister , CmapTools
Methodological Design	Propose a methodology to build a theoretical framework	Methodological guides, research manuals	Validation with methodology experts	Methodological document for structuring the framework	Clear guidelines for developing theoretical frameworks	Project Methodologist	APA Standards, Methodology Manuals

Practical Application	Create a practical example of building a theoretical framework	Previous examples of academic work	Adaptation of theoretical models to a specific topic	Prototype of a structured theoretical framework	Example for future research	Working group	Microsoft Word, LaTeX
Critical Evaluation	Evaluate the coherence and relevance of the created example	Expert opinion, peer review	Qualitative analysis of the prototype using quality criteria	Critical evaluation report and suggestions for improvement	Refinement of the framework development process	Academic reviewer	Evaluation templates, Quality standards
Socialization of Results	Presentation of the work carried out to the academic community	Writing reports and preparing presentations	Critical interpretation of results and obtaining feedback	Final document on the construction and understanding of the theoretical framework	Contribution to the institutional theoretical and methodological heritage	Outreach Coordinator	PowerPoint, Canva , Word Documents

Source: Prepared by the author based on a conceptual comparison.

The table above shows, in a disaggregated manner, the possible activities, actions, results, tools, responsible parties, among other elements necessary for the development of a hypothetical objective, in order to express the possible components that can be taken into account, according to the review of the applied literature (Cook & Campbell, 1979).

i.Projection of Expected Results in the research proposal.

A closer look at the expected outcomes reveals that they align with the value promises established in the objectives. Consequently, these hypothetical outcomes approximate the potential outcomes expected at each stage of the project, which, in turn, provides a margin of certainty regarding the full achievement of the overall objective. This objective has been progressively refined throughout the process, from the initial problem formulation to its current development. (Geertz, 1973)

In this sense, the expected results are aligned congruently with the research question, addressing the knowledge deficit and, ultimately, the object of study of the project (Hernández et al., 2014).

h. Systematization of the proposal's own metadata in a micro-bibliometric

Firstly, it is necessary to clarify that, in the context of this case, bibliometrics is referred to as a resource and support for the references incorporated in the development of the project, rather than as the review technique applied in specialized databases, as previously mentioned in the section on the types of documentary research (Montgomery, 2017).

a comprehensive metadatabase documenting all references used during the document construction phase and proposal development. This allows for quantitative analysis and the identification of relevant trends through the use of applications such as bibliometrix and vosviewer , among others. In this way, document reviewers can identify aspects such as periodicity, convergence, relationship, correlation, categorical emergence, heat maps, citations, co-citations , and affiliations, among others (Yin, 2018).

The issuance of graphs, indices and indicators can, in a broad sense, complement a research derivative, such as a documentary review constituting an emerging state of the art (Tashakkori & Teddlie , 2003). The attached table identifies some significant elements that should be taken into account in the construction of the matrix.

Table 6 – Bibliometric sheet

Author(s)	Salcedo Mosquera, JD
Keywords	Deontology, Accounting, Higher Education, Critical Thinking.
Year	2010
Reference	Jinete Rua , LM, & Puerta Cossio , AM (2006). Influence of role-playing on the development of oral language in four-year-old children in the school context.
Title of the article and/or Academic Document	Comprehensive training in the construction and stimulation of critical thinking in university students and teachers
Type of research	Theoretical Review Article
Aim	Establish the relationship between the postulates of Public Accounting and the application of codes of ethics from the perspective of Accounting Education.
Methodology	Critical literary analysis and field application with the relationship of analytical categories
Discussion (Summary)	The conceptual delimitation between training, formation and comprehensive training are high-level needs in terms of reflection, since in the teaching-learning process, it is often difficult to distinguish which of these is being referred to, with the way of acting, thinking, being and doing, since it is thought that everything handles an established order, which does not need criticism that contributes to its continuous improvement. But this process should not only remain in the classroom, with the teacher and the student, it must transcend and recalcitrant in the curricular structure of higher education institutions, since they should not be alien to the social realities that are being configured every day and with greater speed.
Conclusions	The importance of stimulating and building critical thinking in students must be emphasized, but under the principle that the person directly involved in this process of autonomy is the subject themselves and that the teacher plays the role of guarantor and guide of this emancipatory process. In this way, every day, we can talk about a better society, in which we learn and study for life, not for a dull system.
Contribution to the state of the art.	It contributes to the development of the research proposal, clarifying the differentiation between training and formation, as well as the concept of critical thinking in the context of university education from the perspective of Public Accounting.

Source: Prepared by the author based on a conceptual comparison.

The preceding table, which constitutes an essential reference element in the quantitative analysis of the data collected in the study, adopts the structure of a grid that condenses the relevant metadata for the application of this type of analysis (Field, 2013).

Processing and systematization capacity expands as elements are incorporated that, derived from the researcher's needs and creativity, generate greater amounts of data. In other words, the greater the amount of data combined, the broader the range of options for developing and proposing quantitative analyses based on literary references (Shadish et al., 2002).

i. Bibliography as a substantial element of the research process.

In the previous point, the construction of metadata was described, based on the information resulting from the references applied during the development of the project, which would allow the configuration of bibliometrics; in the case of the bibliography, this refers to the complete references applied, no longer taking into account some aspects of the metadata , but rather giving recognition to the authors, taking into account application standards, such as APA and/or Vancouver, among others. (Van Manen, 2016)

In its structure it responds to the full recognition of the references applied in the construction of the proposal, giving scientific value of rigor when containing all the literature consulted and used (Salcedo et al., 2024).

j. Elements necessary for Budget consideration

It is imperative to highlight the importance of the budget as an essential component in evaluating the viability of a research proposal, since a significant proportion of these proposals do not adequately incorporate this element, which is a determining factor in project execution. This omission is attributed

to the perception that the resources used are not reflected in monetary terms, despite their economic value (Urriago et al., 2024).

For example, the researcher's work, the use of tools such as computers, access to databases, travel, consultancies, advisory services and time commitment are elements that, at first glance, are considered predetermined, but must be subject to assessment. (Wooldridge , 2016)

One recommendation for budgeting is, for example, to use the matrix of the stages of approach in this document and, based on these, cost each activity (Salcedo et al., 2024). This way, each development will have its own cost center, and the project's economic value can be projected more accurately. The following table illustrates a relevant example for a proposal that is based on four specific objectives.

Table 5 – Budget Projection from the approach stage structure

Specific Objective	Activity	Human Resources	Use of Resources	Estimated Time	Costing (COP)
1. Conduct a comprehensive theoretical review on the topic of study.	1.1 Bibliographic search in academic databases	Principal Investigator	Computer, Internet, Digital Libraries	20 hours	$1,200,000
	1.2 Selecting and filtering relevant articles	Research Assistant	Computer, Mendeley, Scopus	15 hours	$900.00
	1.3 Analysis of previous studies	Principal Investigator	Computer, Analysis Software (NVivo)	20 hours	$1,200,000
	1.4 Preparation of a state-of-the-art document	Academic Editor	Computer, Word Processor	30 hours	$1,800,000
	1.5 Peer validation of the document	Academic Evaluator	Computer, Proofreading	10 hours	$600.00
Subtotal Objective 1				95 hours	**$5,700,000**
2. Design the methodology for the development of the research.	2.1 Development of the methodological framework	Methodologist	Computer, APA Standards	15 hours	$900.00
	2.2 Selection of data collection techniques	Principal Investigator	Computer, Methodology Manuals	10 hours	$600.00
	2.3 Instrument design (surveys and guides)	Research Assistant	Computer, Survey Software (Google Forms)	15 hours	$900.00
	2.4 Pilot testing of the instruments	Validation Group	Computer, Prints	8 hours	$480.00
	2.5 Final adjustment of the instruments	Principal Investigator	Computer, Analysis of pilot test results	10 hours	$600.00
Subtotal Objective 2				58 hours	**$3,480,000**
3. Apply the instruments designed for data collection.	3.1 Training of interviewers	Field Coordinator	Computer, Projector, Survey Manual	5 hours	$400.00
	3.2 Conducting field surveys	Pollsters	Mobile Devices, Transportation	20 hours	$2,000,000
	3.3 Supervision of data collection	Field Supervisor	Computer, Progress Reports	15 hours	$1,200,000
	3.4 Database consolidation	Data Analyst	Computer, Excel	10 hours	$800.00
	3.5 Data cleansing and organization	Data Analyst	Computer, Analysis Tool	10 hours	$800.00
Subtotal Objective 3				60 hours	**$5,200,000**
	4.1 Statistical processing of data	Statistical	Computer, SPSS, R	20 hours	$1,600,000

	4.2 Preparation of graphs and tables	Data Analyst	Computer, Excel	15 hours	$1,200,000
4. Analyze and interpret the results obtained.	4.3 Interpretation of results	Principal Investigator	Computer, Analysis Documents	20 hours	$1,600,000
	4.4 Writing the results report	Academic Editor	Computer, Word Processor	25 hours	$2,000,000
	4.5 Review and correction of the final report	Proofreader	Computer, Correction Tools	10 hours	$800.00
Subtotal Objective 4				90 hours	**$7,200,000**
Total Project				**303 hours**	**$30,080,000**

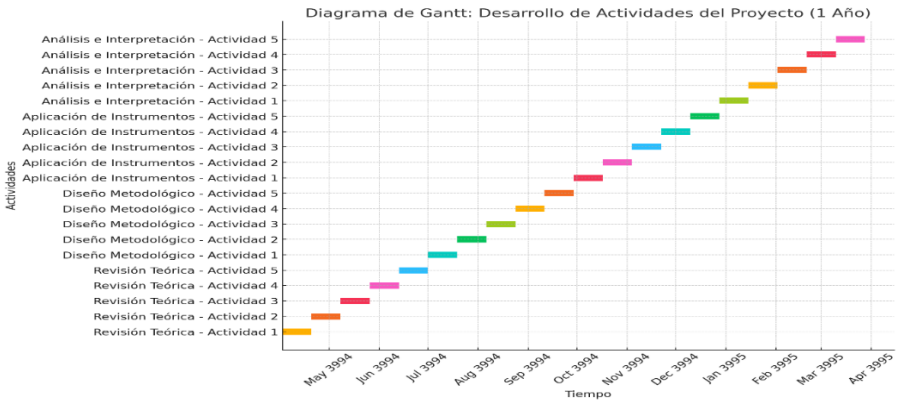
Source: Prepared by the author based on a conceptual comparison.

As evidenced in the table above, the possible application of economic values to a research proposal is outlined, which allows for development and control from a planning perspective, a key and fundamental aspect of potential outcomes. In this sense, the importance of the budget in the viability of a research proposal is underscored. Consequently, this section highlights its relevance as an essential component for managing resources—physical, financial, economic, and human capital, among others (Creswell & Poth , 2018).

k. The Schedule as a tool that contributes to control and monitoring.

The timeline, understood as a tool that facilitates the projection of actions, the proposal of effective monitoring and control for the optimization of resources, as well as for maintaining the pace of research, allows for responding to the established time schedule for the completion of the activities developed within the framework of the project (Flick , 2018). The implementation of the Gantt Chart, recognized for its effectiveness in the graphical representation of planning, is a recommendation for the optimization of project management. A graphic example of its application is shown below:

Chart 7 - Gantt Chart



Source: Prepared by the author based on a conceptual comparison.

7. Artificial Intelligence as a support tool and not as an end in development.

In the current context, artificial intelligence (AI) is presented as an ally in the scientific research process. This technology, designed to facilitate human work, should not aspire to replace the analytical capacity, intuition, and depth that characterize researchers. Instead, its role should be limited to contributing to specific and repetitive tasks, such as systematization, copyediting, creating editorial profiles, verifying data, and generating broad information flows. It is crucial to keep ultimate responsibility in the hands of researchers, as AI cannot assume it entirely (Bryman , 2016).

It can be said that the proposal, the preliminary draft, and/or, depending on the specific name given by each institution, is considered the so-called "preliminary" step. At this stage, the research intentions are gradually formalized. However, the research process has not stopped. On the contrary, upon its presentation, its full development is encouraged, allowing progress to be made on each of the value propositions established in the initial proposal (Chiavenato, 2019).

Therefore, as previously mentioned, the research proposal establishes the minimum number of chapters that would be included in the development of the research text, since for each objective, there are at least as many chapters (Cook & Campbell, 1979).

8. Methodology

For the development of this research, we have used "Methodological Eclecticism," a practical current of methodological anarchism that allows the researcher to promote diverse methods and techniques to collect, systematize, and structure information. (Geertz, 1973)

In a first phase, for data collection, the databases Scopus , Web of Science and Google Scholar , with the aim of ensuring that the documents obtained were not limited solely to research results, but also included recognized textbooks and publications in the field of research methodology. This was achieved through the use of the Boolean equation:

(Academic background OR Academic Background) AND (Investigative Background OR Research Background) AND (Problem Statement OR Problem Statement) AND (Systematization OR Systematization) AND (Problem Formulation OR Problem Formulation) AND (Research Objectives OR Research Objectives) AND (Justification OR Justification). AND (Theoretical Framework OR Theoretical Framework) AND (Conceptual Framework OR Conceptual Framework) AND (Contextual Framework OR Contextual Framework) AND (Normative Framework OR Normative Framework) AND (Methodological Framework OR Methodological Framework) AND (Methodological Procedure OR Methodological Procedure) .

230 results were obtained from Scholar ; 25 from Scopus and 10 from Wos ; in the debugging review it was taken into account that the argument focused only on the constituent elements of a research proposal, obtaining a total of 100 documents; continuing with the criteria of differentiating background and systematization of the problem, separately weighting Reference Frameworks; a result of 50 documents reviewed in a general way is obtained, with an impact on 40 documents. As evidenced in Table 6, the applied PRISMA sheet (Montgomery, 2017) is presented.

Table 6 – Prism applied for documentary review and theoretical comparison.

Phase	Description	Amount	Inclusion/Exclusion Criteria	Database Selection Criteria	Selection Justification	Categories Covered
ID	Documents identified in the initial search in academic databases	100 initial documents	Sources: WOS, Scopus , Google Scholar Repositories . Including empirical studies and reviews.	N/A	Wide selection to ensure theoretical and methodological diversity	N/A
Screening	Documents discarded due to duplication or lack of thematic congruence	60 documents discarded (20 duplicates, 40 due to inconsistency)	Duplication in databases, lack of direct relationship with scientific research	N/A	Elimination of redundant or irrelevant studies for the research approach	N/A
Eligibility	Documents evaluated in depth according to methodological and relevance criteria	40 documents reviewed in detail	Methodological quality (use of recognized theories), thematic relevance, contribution to the proposal	Documents belonging to WOS, Scopus or Google Scholar	Prioritization of studies with a robust theoretical foundation and clear methodology	Academic Background, Research Background, Problem Statement, Systematization, Problem Formulation
Inclusion	Documents finally selected for analysis and discussion	50 selected documents	Documents consistent with essential elements of scientific research	The selected documents were in at least one of the databases: WOS, Scopus , Google Scholar	Significant contribution to the theoretical and conceptual analysis of the research topic	Research Objectives, Justification, Theoretical Framework, Conceptual Framework, Contextual Framework, Normative Framework, Methodological Framework, Methodological Procedure

Source: Prepared by the author based on a conceptual comparison.

Through documentary analysis, points of convergence regarding the research problem were identified. Subsequently, through theoretical comparison and discursive simplification, the analytical categories that, in axiomatic terms, constitute the research formulation were obtained. (Popper, 1959)

Categorical emergence therefore raises the following questions: What elements should a research proposal contain? In this regard, the following hypothesis is posed: What are the components in terms of rigor that a research proposal should consider? (Patton , 2015)

Based on the adopted methodology, the following question is determined as the basis for this research: *What are the constituent elements of a rigorous research proposal based on research methodology* ? The comparative theoretical review has revealed that these same elements are present in the proposals and that they play a crucial role in describing the steps addressed in this document. (Field, 2013)

Consequently, these elements constitute the central point of discussion, in terms of validating that the rigor, quality and understanding of the academic and research communities recognize the relevance of each of the elements contained herein throughout the result and value them as a fundamental part of the research formalization process. (Shadish et al., 2002)

In terms of the discourse simplification technique, the objective of this research is to " *Analyze the constituent elements of a rigorous research proposal based on the Research Methodology: Documentary Review from theoretical comparison and discourse simplification* ."

Based on the above, the methodology to be followed is structured as follows: first, the documents are classified using a validated technique; second, document classifications are implemented, which contain both explicit and emerging categories. (Van Manen, 2016)

A theoretical comparison is conducted based on the selected texts, identifying the elements of discussion that constitute the body of this article. A theoretical comparison is made from the critical references of the epistemological foundation, proceeding to describe the constitution and operationalization of the elements, raising the question of whether these elements should be comprehensible to all those who undertake a research process. (Salcedo et al., 2024)

The paradigm adopted to validate the procedure is based on methodological eclecticism, derived from the epistemological anarchic approach (Salcedo et al., 2024).

9. Discussion of Research Results

This research has revealed that developing research proposals in the academic field faces multiple challenges stemming from both conceptual planning and methodological structuring. Despite the abundant existing methodological literature (Creswell & Poth , 2018; Denzin & Lincoln, 2018; Flick , 2018), difficulties in logical articulation and coherence between components remain evident, especially when considering the interaction between the problem statement, objectives, and reference frameworks.

a. Difficulties in Theoretical-Methodological Coherence

One of the main obstacles identified lies in the lack of coherence between the problem statement and the research objectives. This inconsistency generates proposals where the objectives do not effectively address the formulated problem, which reduces the academic impact of the work. According to Creswell (2014), a solid proposal must ensure that the objectives are the direct result of a clear diagnosis of the problem, articulated in a way that allows the situation at hand to be addressed with a logical and structured approach.

Furthermore, many projects find that problem formulations tend to be vague or overly general, making it difficult to specify concrete and achievable objectives. This situation worsens when researchers fail to adequately integrate the academic context with the practical reality under investigation. Flick (2018)

emphasizes that a clear problem formulation must include both the theoretical context and the empirical elements that give it social and academic relevance.

b. Systematization and Formulation of the Problem

Another significant aspect is the weakness in the process of systematizing the problem. In many cases, systematization is limited to a theoretical exposition without a critical connection to the specific context. This results in poorly substantiated proposals that fail to justify the relevance of the research from a comprehensive approach. According to Denzin and Lincoln (2018), systematization must transcend mere theoretical compilation, integrating critical reflection that articulates academic and research background.

In this sense, the lack of precision in the systematization process also impacts the construction of reference frameworks, especially in the conceptual and theoretical spheres (Salcedo et al., 2024). Theories are often used mechanically, without deep reflection on their applicability or relevance to the problem at hand. This is consistent with what Sampieri et al. (2014) pointed out, who emphasize that the appropriate use of reference frameworks allows for structuring research analysis from a more coherent and grounded perspective.

c. Challenges in the Construction of Reference Frameworks

The analysis also identified significant shortcomings in the construction of theoretical and conceptual frameworks. Many projects present a fragmented theoretical approach that fails to sustain the stated objectives. This situation reflects a lack of understanding of the purpose of reference frameworks in scientific research. According to Bernal (2010) and Hernández et al. (2014), a robust theoretical framework not only grounds the analysis but also guides the methodological process and ensures the conceptual coherence of the study.

Particularly problematic is the inadequate use of contextual and regulatory frameworks, which are often developed tangentially or superficially. This results in the proposal lacking a holistic perspective that considers both the research background and the regulatory environment that governs the phenomenon under study. Properly articulating these elements allows for a direct link between theory and practice, essential for research that aims to generate significant contributions to the academic field.

d. Methodological Challenges and Use of Digital Resources

The use of inappropriate methodologies is another problem identified. Many projects apply methodological techniques thoughtlessly, without evaluating whether they are appropriate for the object of study. This reflects a reductionist view of methodology as a set of predefined procedures, rather than as a reflective and adaptive process. According to McMillan and Schumacher (2014), the methodological approach should be a logical consequence of the problem at hand and not an unfounded technical imposition.

Additionally, the limited use of academic databases such as WOS, Scopus , and Google Scholar represents a recurring deficiency. Although these platforms contain high-impact resources, many researchers lack the knowledge to critically select relevant and up-to-date studies. This affects the quality of the state of the art and limits the identification of theoretical gaps. García (2016) argues that mastery of academic tools is essential to strengthen the theoretical foundation and bibliographic review of research proposals (Salcedo et al., 2024).

10. Critical Reflection and Recommendations

A comprehensive analysis based on applied methodologies highlights the need to strengthen research competencies in students and professionals in the academic field. The implementation of pedagogical

strategies that promote critical analysis and the appropriate use of methodologies would allow for the development of more robust and coherent proposals. Furthermore, researchers must be trained in the use of high-impact academic sources, promoting an informed and critical selection of relevant literature. (Geertz, 1973)

Recognizing that the overall objective of the document is derived from the bibliographic review, it can be said that it focuses on strengthening research competencies for the construction of academic proposals with high methodological and conceptual rigor. (Hernández et al., 2014)

This goal is justified by the need to structure coherent research that integrates theory and practice, contributing to the advancement of scientific knowledge in educational and professional contexts. Through a comprehensive and critical approach, the goal is to promote the development of projects that adequately address current issues, ensuring a significant and relevant academic impact (Kerlinger & Lee, 2000).

11. Categorical relationship with the objective resulting from the methodology applied in the present research.

The overall objective of this article focused on strengthening research competencies for the construction of academic proposals with high methodological and conceptual rigor through critical analysis, theoretical review, and discourse simplification. This goal responds to the need to structure coherent research that integrates theory and practice, contributing to the advancement of scientific knowledge in educational and professional contexts. (Yin, 2018)

In this sense, the methodology applied in this work is based on a critical analysis of the recurring methodological difficulties in the formulation of research proposals, which allowed us to identify and discuss the key elements that must be considered to improve the academic quality of the projects presented. (Tashakkori & Teddlie , 2003)

The article's logically and sequentially structure allows the reader to move from the problem statement to the identification of the main methodological challenges, which contributes to a comprehensive understanding of the phenomenon studied. Furthermore, the inclusion of solid theoretical frameworks and up-to-date references ensures that the proposed recommendations are substantiated and contextualized, providing clear guidelines for future researchers seeking to improve their skills in developing scientific proposals. (Popper, 1959)

This approach not only promotes the strengthening of research skills in academic contexts but also offers practical tools for structuring research projects with greater precision and coherence, resulting in more robust proposals with a significant impact on the scientific field. The methodology applied and the organized structure of the article are consistent with this objective, allowing for the development of practical recommendations that can be adopted by both students and established researchers (Patton , 2015).

12. Conclusions

The development of research proposals in the academic field faces numerous methodological and conceptual challenges, especially regarding coherence between the problem statement, objectives, and frameworks. This paper has shown that these challenges are due not only to a lack of clarity in theoretical structuring but also to a deficiency in the research training of many students and professionals. This leads to proposals that, although conceptually valuable, lack a logical articulation that supports their academic validity.

The documentary analysis identified one of the main problems in formulating the research problem. This is often presented in a generalized and imprecise manner, which directly impacts the construction of specific objectives that are poorly aligned with the problem at hand. This phenomenon is particularly noticeable in academic proposals of a formative nature, where students face difficulties when trying to operationalize theoretical concepts in specific practical contexts (Bernal, 2010; Creswell & Poth , 2018).

On the other hand, the insufficient use of robust and up-to-date reference frameworks negatively impacts the theoretical foundation of many proposals. In some cases, the lack of a comprehensive bibliographic review leads to the use of obsolete or irrelevant theories, which limits the academic scope and applicability of the proposed studies (Hernández et al., 2014; Flick , 2018). This situation reflects an urgent need to strengthen research competencies in the academic field, promoting the use of high-impact sources such as WOS, Scopus , and Google Scholar .

From a methodological perspective, it has been found that many projects lack a clear and coherent strategy for developing specific objectives. The methodology should be a logical consequence of the problem statement and not an unjustified technical imposition (McMillan & Schumacher, 2014). Furthermore, the use of mixed or eclectic methodologies, although enriching, requires a clear justification that articulates the reason for its use in relation to the object of study (Tashakkori & Teddlie , 2003).

A fundamental aspect identified in this work is the importance of the theoretical analysis methodology and discourse simplification as essential research strategies for developing coherent and rigorous academic proposals. The theoretical analysis methodology allowed for a critical comparison of key concepts and the structuring of the essential elements that make up a methodologically robust proposal. Furthermore, discourse simplification was crucial for clarifying complex concepts and making the fundamental elements of the research accessible to understand, thus promoting logical coherence between the sections of the document (Creswell, 2014; Denzin & Lincoln, 2018).

The methodological approach developed in this article allowed for a critical articulation of the essential elements of a rigorous research proposal. The use of documentary analysis techniques, theoretical comparison, and discursive simplification proved to be effective tools for identifying and systematizing the key components that must comprise a coherent and well-founded academic proposal. This includes a clear formulation of the problem, a robust justification, a set of objectives aligned with the approach, and theoretical frameworks that methodologically support the proposed analysis (Creswell, 2014; Denzin & Lincoln, 2018).

The connection with the overall objective of this research is evident in the way it has successfully structured a comprehensive and thoughtful guide that seeks to strengthen methodological and conceptual skills in the development of highly rigorous academic proposals. This articulation allows not only for the advancement of knowledge in the methodological field, but also a concrete proposal for future researchers to develop projects with greater coherence and academic depth. The structure of the article, from the introduction to the discussion, responds to this methodological logic, providing practical recommendations for researchers and teachers in training.

The emphasis on the use of theoretical analysis methodology and the simplification of discourse not only strengthens the conceptual rigor of research proposals but also allows for the presentation of content in an accessible and clear manner, contributing to greater academic impact. This strategy promotes the generation of relevant and transferable knowledge to diverse educational and scientific contexts, which contributes to strengthening a research culture focused on methodological precision and conceptual clarity.

Finally, it is recommended to continue exploring pedagogical strategies that promote critical thinking and the ability to structure sound research in the academic field. The implementation of research training programs at advanced educational levels could significantly contribute to overcoming the identified limitations, promoting an academic culture oriented toward rigor, coherence, and scientific impact.

13. Limitations, implications and new research directions

This study has allowed for a deep reflection on the fundamental elements that should characterize a rigorous research proposal, especially highlighting the methodology of theoretical analysis and the simplification of discourse as key strategies for strengthening methodological and conceptual coherence. This approach not only provides clarity in the construction of the object of study but also opens new possibilities for strengthening research competencies in educational and academic contexts (Creswell, 2014; Flick , 2018).

The implications of this methodological proposal extend to the training of researchers capable of integrating critical analysis and the appropriate use of academic references, resulting in proposals with a high degree of theoretical and conceptual foundation. The proposed structure contributes to the logical articulation of research between the problem statement, objectives, and frameworks, thus promoting a comprehensive understanding of the phenomenon under study (Bernal, 2010; Hernández et al., 2014).

Regarding projections, this methodological approach invites new explorations in diverse fields where theoretical and methodological coherence is a challenge. Similarly, the use of mixed methodological tools can allow for a more dynamic and adaptive approach in interdisciplinary research, broadening the academic and professional impact of the projects developed (Tashakkori & Teddlie , 2003; Montgomery, 2017).

Finally, this work proposes a horizon of research possibilities that address the practical implementation of these strategies in educational and academic settings, promoting the empirical validation of the proposed methodology and its adaptation to specific contexts. Thus, researchers and scholars are encouraged to continue expanding the theoretical and methodological perspective, strengthening rigor and clarity in the construction of scientific knowledge.

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