

# FORMULATING A RESEARCH PROBLEM STATEMENT USING THE IRCA FRAMEWORK: A STRUCTURED APPROACH FOR RESEARCHERS

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**Abstract:** *A well-defined research problem statement is fundamental to any academic study, guiding the direction and purpose of the research. However, many researchers struggle to articulate their problem statements clearly. This paper introduces the IRCA framework, which structures the problem statement into four key Components: Ideal, Reality, Consequence, and Aim. By systematically addressing these elements, researchers can develop clear, compelling, and logically structured problem statements. This paper explores the IRCA framework, provides a step-by-step guide, and presents an example to illustrate its application in research writing.*

**Keywords:** *Problem statement, IRCA, clear problem statement, framework.*

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## Introduction

Writing a compelling research problem statement is a critical component of any study. It sets the stage by articulating the underlying issue that drives the need for the research. As Creswell (2015) emphasizes, crafting this paragraph is not easy but is essential to capturing a reader's attention. Readers encountering a journal article often lose interest if they do not perceive a clear problem, much like a novel that fails to engage in its opening pages. Research inherently aims to solve problems, but many researchers tend to focus on describing the current state of affairs ("what exists") rather than highlighting "what needs to be addressed." This distinction is vital for a meaningful problem statement.

A research problem can originate from various sources, such as personal or workplace experiences, debates in academic literature, or policy discussions among government officials or business leaders (Creswell, 2009). Accurately identifying the problem is crucial because unclear problem statements can leave readers uncertain about the study's importance. Moreover, research problems are often mistaken for research questions, which are designed to explain or further understand the problem itself.

Defining a clear, researchable problem is widely considered one of the most challenging aspects of research (Terrell, 2022). However, mastering this process is key to a successful dissertation or research proposal. The problem statement sets the foundation for subsequent elements, including the purpose of the study, research questions, hypotheses, literature review, and research methods. By learning how to identify and articulate a research problem, you will be well-prepared to develop a quality dissertation proposal.

A research problem statement is a crucial element of any academic investigation. It provides a concise yet comprehensive description of the research problem, outlining its importance, relevance, and significance. This statement serves as the starting point for the research process, shaping the development of research questions, hypotheses, and objectives (Aditya Sai Srinivas et al., 2023). Without a well-structured problem statement, research may lack a strong foundation and clear direction.

The challenge of writing an effective research problem statement is widely acknowledged. Many researchers struggle with articulating their problem statement due to issues such as lack of clarity, inadequate scope, and insufficient justification. These challenges can undermine the overall success of the study (Gidado & Bappi, 2013). In the context of doctoral research, crafting a precise and well-justified problem statement is particularly critical, as it lays the groundwork for the entire dissertation. Students frequently encounter difficulties in defining their research problem, and failure to do so effectively can impact the coherence and success of their dissertation (Ali & Pandya, 2021).

Given the fundamental role of a well-defined problem statement in shaping research, it is essential to explore structured approaches to its formulation. The IRCA framework provides a systematic method by organizing the research problem into four key components: Ideal, Reality, Consequence, and Aim. Although previous studies emphasize the significance of problem statements and outline general guidelines for their construction, these approaches are often either too abstract to be applied effectively or not widely recognized across disciplines, leaving many researchers uncertain about how to translate theory into practice (Nasution et al., 2019; Srinivas et al., 2023). This gap highlights the need for a practical, accessible framework that can enhance clarity and precision in problem formulation. Therefore, this paper examines

the IRCA framework in detail, demonstrating how it can strengthen research problem formulation and improve the effectiveness of academic writing.

### **Understanding the IRCA Framework**

Formulating a clear and well-structured research problem statement is a crucial step in any research process, as it establishes the foundation for the entire study. The IRCA framework offers a systematic approach to crafting a research problem statement by organizing it into four essential components: Ideal, Reality, Consequence, and Aim. Each of these components plays a vital role in defining the research problem in a way that enhances clarity, logical flow, and coherence. By applying this structured method, researchers can effectively outline the gap in knowledge, highlight the real-world issue, demonstrate its implications, and articulate the study's objectives. This framework not only strengthens the problem statement but also ensures that readers can easily grasp the significance of the study.

A well-defined research problem statement serves as the backbone of a study, guiding the formulation of research questions, hypotheses, and objectives. Without a structured approach, many researchers struggle to clearly articulate their problem statements, leading to ambiguity and a lack of focus in their research. The IRCA framework addresses this challenge by providing a logical sequence that allows researchers to systematically present their problem in a way that justifies the need for their study. The following sections elaborate on each component of the IRCA framework and explain how they contribute to the construction of a well-developed research problem statement.

#### **Ideal (I)**

The first component of the IRCA framework, Ideal, describes the optimal or desired state of a particular phenomenon in the absence of the problem being investigated. It establishes a benchmark for comparison, outlining how things should function under ideal conditions. By defining the ideal state, researchers create a clear reference point against which the existing problem can be identified, providing context for why the issue is significant.

When developing this section, researchers should focus on describing the standard, best practice, or goal that would exist if the problem were non-existent. The ideal state is often derived from theoretical frameworks, established policies, best practices, or widely accepted norms relevant to the research topic. It represents a condition in which systems, processes, or behaviors function optimally, free from the disruptions caused by the identified problem. A strong articulation of the ideal state ensures that readers understand what should be happening in a given context, making it easier to recognize the gap when the reality is presented.

For instance, in a study on solid waste management in urban areas, the ideal scenario might describe a system where waste is efficiently collected, properly recycled, and managed in a way that minimizes environmental impact. In this ideal state, government regulations are effectively enforced, and communities actively participate in sustainable waste practices. This description provides a clear vision of what is expected, setting the stage for a discussion on how reality deviates from this standard.

#### **Reality (R)**

In contrast to the ideal state, the Reality component presents the current situation, emphasizing the discrepancies that exist between what should be happening and what is actually occurring. This section highlights deviations from the ideal state, demonstrating the presence of a

significant gap that necessitates investigation. The reality portion of the problem statement must be supported by evidence, including statistics, observations, case studies, or scholarly literature, to establish the credibility of the identified problem.

When writing this section, researchers should focus on showcasing how the current state contradicts or falls short of the ideal scenario. The reality component essentially highlights the research gap by drawing attention to inadequacies, inefficiencies, or challenges that exist in the real world. It is in this section that the researcher justifies the relevance of the study by illustrating the magnitude and persistence of the problem.

For example, in the case of urban solid waste management, the reality may reveal that improper waste disposal remains a pressing issue, recycling initiatives are poorly implemented, and municipal regulations are either weak or unenforced. Statistical data may show an increasing amount of waste accumulating in landfills, leading to environmental pollution and health hazards. This stark contrast between the ideal and reality underscores the need for a study to bridge the existing gap.

### **Consequence (C)**

Once the gap between the ideal and reality has been established, the Consequence component examines the negative implications resulting from this discrepancy. This section explains who is affected by the problem and why addressing it is crucial. By illustrating the direct and indirect effects of the issue, researchers strengthen the urgency of their study and demonstrate its broader societal impact.

In this part of the problem statement, researchers must articulate how the problem influences individuals, communities, institutions, or the environment. The consequences could manifest in various forms, such as economic burdens, social inequalities, environmental degradation, or health risks. Clearly identifying these negative effects justifies why the research is necessary and highlights the need for potential solutions.

Continuing with the example of urban waste management, the consequences of poor waste disposal may include increased pollution, public health risks due to the spread of diseases, economic losses from inefficient waste management systems, and long-term environmental damage. If left unaddressed, these consequences can worsen over time, affecting the well-being of future generations. By emphasizing these negative impacts, researchers establish a compelling case for their study, reinforcing the importance of their investigation.

### **Aim (A)**

The final component of the IRCA framework, Aim, articulates the primary objective of the study. This section clearly defines what the research seeks to achieve in response to the identified problem. It provides a concise statement outlining the study's purpose, ensuring that the research has a clear direction.

A well-stated aim should address the problem identified in the Reality section while considering the Consequences of not resolving the issue. It should also reflect efforts to move closer to the Ideal state. The aim should be specific, measurable, and aligned with the study's overall objectives.

For example, in a study on improving urban waste management, the aim could be to evaluate the effectiveness of existing waste management policies and propose innovative strategies to

enhance recycling practices and reduce landfill dependency. By clearly stating this objective, the researcher provides a roadmap for their investigation, ensuring that their study remains focused and purposeful.

## Writing a Research Problem Statement Using IRCA

### Step-by-Step Guide

#### 1. Identify the research area

The first step in writing a research problem statement involves identifying a relevant research area. Selecting an appropriate topic requires careful consideration of its significance, relevance, and contribution to the field of study. Researchers should immerse themselves in existing literature, policy documents, and real-world issues related to their topic. A thorough understanding of the subject matter is crucial, as it allows the researcher to identify knowledge gaps, inconsistencies, and unresolved questions that require further investigation.

#### 2. Apply the IRCA structure

Once the research area is well understood, the next step is to apply the IRCA structure. This framework helps organize the problem statement into four interconnected components. The "Ideal" component establishes the optimal state of the phenomenon under study, setting a benchmark for comparison. The "Reality" component then describes the current situation, highlighting deviations from the ideal state and presenting data or observations that illustrate the gap. The "Consequence" component explains the negative impacts of the identified gap, emphasizing why the issue warrants attention. Finally, the "Aim" component outlines the research objective, defining the purpose of the study in addressing the identified problem. Applying the IRCA structure ensures a logical progression in the problem statement, making it easier for readers to understand the significance of the research. However, researchers can only effectively implement this structure if they have conducted thorough background research to support each component.

#### 3. Use concise and impactful language

Clarity and coherence are essential when writing a problem statement. The language used should be concise, precise, and impactful, ensuring that each component of the IRCA framework is well-articulated. Avoiding vague or overly complex language helps maintain readability and ensures that the problem statement is easily comprehensible to both academic and non-academic audiences. Logical flow is equally important, as it allows the problem statement to transition smoothly from one component to another, reinforcing the overall argument.

#### 4. Support with evidence

A well-written research problem statement must be supported with evidence. Data, statistics, and scholarly literature play a crucial role in substantiating the Reality and Consequence components of the problem statement. By incorporating credible sources, researchers strengthen the validity of their claims and demonstrate the importance of addressing the identified issue. Without sufficient evidence, the problem statement may appear speculative or weak, reducing its persuasive impact.

In summary, writing a research problem statement using the IRCA framework requires careful topic selection, thorough literature review, structured organization, clear and precise language,

and strong supporting evidence. By following these steps, researchers can craft a compelling and well-grounded problem statement that effectively sets the foundation for their study.

### Example of a Complete Research Problem Statement Using IRCA

Here is an example of a problem statement using the IRCA framework, presented in a table format with in-text citations:

**Tabel 1: IRCA Framework**

Component	Description
<b>Ideal (I)</b>	Effective solid waste management in urban areas ensures proper waste collection, recycling, and disposal, minimizing environmental pollution and health hazards. In an ideal scenario, municipal authorities enforce waste management regulations, communities actively participate in recycling programs, and sustainable waste disposal methods are widely adopted (Wilson et al., 2015). Proper waste management contributes to environmental sustainability and improved public health (Zhao et al., 2016).
<b>Reality (R)</b>	Despite existing waste management policies, urban areas in Sabah continue to struggle with improper waste disposal. Many households and businesses do not adhere to waste segregation practices, recycling rates remain low, and illegal dumping is prevalent (Kamaruddin & Omar, 2020). Municipal waste collection systems are often inefficient, leading to overflowing landfills and environmental degradation (Jafari et al., 2021). Additionally, public awareness and participation in recycling initiatives remain limited due to a lack of incentives and education (Yusof et al., 2019).
<b>Consequence (C)</b>	The failure to manage waste effectively has led to severe consequences, including increased pollution, the spread of diseases, and long-term environmental damage (Minghua et al., 2009). Poor waste management contributes to clogged drainage systems, worsening urban flooding, and declining public health (Agamuthu & Fauziah, 2011). Additionally, the tourism sector, which is vital to Sabah's economy, is negatively impacted by unsanitary conditions caused by waste accumulation (Hassan et al., 2022).
<b>Aim (A)</b>	This study aims to assess the effectiveness of current solid waste management policies in Sabah and identify key challenges hindering their implementation. It seeks to propose sustainable waste management strategies that enhance community participation, improve policy enforcement, and promote environmentally friendly waste disposal practices (Sharma et al., 2018). By addressing these issues, the study aims to contribute to a more sustainable and efficient waste management system.

**Table 2: An Example of How to Write a Problem Statement Using the IRCA Framework**

Component	Description
<b>Ideal (I)</b>	Effective solid waste management in urban areas ensures proper waste collection, recycling, and disposal, minimizing environmental pollution and health hazards. In an ideal scenario, municipal authorities enforce waste management regulations, communities actively participate in recycling programs, and sustainable waste disposal methods are widely adopted (Wilson et al., 2015). Proper waste management contributes to environmental sustainability and improved public health (Zhao et al., 2016).
<b>Reality (R)</b>	Despite existing waste management policies, urban areas in Sabah continue to struggle with improper waste disposal. Many households and businesses do not adhere to waste segregation practices, recycling rates remain low, and illegal dumping is prevalent (Kamaruddin & Omar, 2020). Municipal waste collection systems are often inefficient, leading to overflowing landfills and environmental degradation (Jafari et al., 2021). Additionally, public awareness and participation in recycling initiatives remain limited due to a lack of incentives and education (Yusof et al., 2019).
<b>Consequence (C)</b>	The failure to manage waste effectively has led to severe consequences, including increased pollution, the spread of diseases, and long-term environmental damage (Minghua et al., 2009). Poor waste management contributes to clogged drainage systems, worsening urban flooding, and declining public health (Agamuthu & Fauziah, 2011). Additionally, the tourism sector, which is vital to Sabah's economy, is negatively impacted by unsanitary conditions caused by waste accumulation (Hassan et al., 2022).
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### Benefits of Using the IRCA Framework

Using the IRCA framework in writing a research problem statement offers several key advantages that enhance the overall quality of a study. One of the primary benefits is that it ensures clarity and logical structure. Each component of the framework Ideal, Reality, Consequence, and Aim builds upon the previous one, creating a well-organized and coherent problem statement. This structured approach prevents ambiguity and allows the reader to clearly understand the research problem, the gap in existing knowledge, and the purpose of the study.

Another significant advantage of using IRCA is that it strengthens the justification for the research. By explicitly articulating the difference between the ideal state and the current reality, the framework highlights the significance of the problem. The Consequence component further

reinforces the need for the study by demonstrating the negative implications of the gap, providing a compelling rationale for why the issue requires attention. This structured justification enhances the credibility of the research and ensures that the problem statement is persuasive and well-supported by evidence.

Moreover, a well-structured problem statement developed using the IRCA framework facilitates the overall research design. Clearly defining the problem helps guide the formulation of research objectives and research questions, ensuring alignment between the problem statement and the study's methodology. This alignment is crucial for maintaining focus throughout the research process and contributes to a more effective and methodologically sound study. By integrating these advantages, the IRCA framework serves as a valuable tool for researchers seeking to develop a strong and well-articulated problem statement.

### Conclusion

The IRCA framework offers a structured and logical approach to writing a research problem statement, making it easier for researchers to define and communicate the significance of their study. By breaking down the problem statement into four interconnected components—Ideal, Reality, Consequence, and Aim this framework ensures clarity, coherence, and relevance. The Ideal component establishes what should be happening, the Reality highlights deviations from this expectation, the Consequence demonstrates the negative effects of the problem, and the Aim outlines the research's objective in addressing the issue.

By systematically applying this approach, researchers can develop a compelling problem statement that provides a strong foundation for their study. A well-structured problem statement not only enhances the credibility of the research but also ensures that it is relevant, impactful, and contributes meaningfully to existing knowledge. The IRCA framework serves as a valuable tool for scholars, particularly those struggling to articulate their research problems effectively, guiding them in constructing problem statements that are clear, concise, and logically developed.

## References

- Aditya Sai Srinivas, T., David Donald, A., Thippanna, G., Madiletty, C., Thulasi Thanmai, B., Professor, A., & Professor, A. (2023). Exploring the Uncharted: A Research Problem Statement. *Recent Trends in Androids and IOS Applications*, 5(3), 11–14. <https://doi.org/10.5281/zenodo.8214100>
- Ali, A., & Pandya, S. (2021). A four stage framework for the development of a research problem statement in doctoral dissertations. *International Journal of Doctoral Studies*, 16, 469–485. <https://doi.org/10.28945/4839>
- Blum, K. D., & Preiss, A. E. (2005). Strategies To Win : Strategies To Win: Six-Steps For Creating Problem Statements In Doctoral Research. *Journal of College Teaching & Learning*, 2(11), 47–52.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). <https://doi.org/10.1128/microbe.4.485.1>
- Creswell, J. W. (2015). *A consise Introduction to Mixed Method Research*. SAGE Publications, Inc.
- Gidado, A., & Bappi, U. (2013). Statement of the problem: An examination of the common pitfalls and the way forward. *Nigerian Journal of Public Sector Management*, 23(1), 1–2.
- Terrell, S. R. (2022). *Writing a proposal for your dissertation: Guidelines and examples*. Guilford Publications.
- Nasution, M. K. M., Onrizal, & Aulia, I. (2019). Design of the research problem statement. *Journal of Physics: Conference Series*, 1235(1), 012115. <https://doi.org/10.1088/1742-6596/1235/1/012115>
- Srinivas, T. A. S., Donald, A. D., Thippanna, G., Madiletty, C., & Thanmai, B. T. (2023). Exploring the uncharted: A research problem statement. *Recent Trends in Androids and IOS Applications*, 5(3), 11–14. <https://doi.org/10.5281/zenodo.8214100>