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## **A Taxonomy of Research Gaps: Identifying and Defining the Seven Research Gaps**

**D. Anthony Miles**

One of the most prevailing issues in the craft of research is to develop a research agenda and build the research on the development of the *research gap*. Most research of any endeavor is attributed to the development of the research gap, which is a primary basis in the investigation of any problem, phenomenon or scientific question. Given this accepted tenet of engagement in research, surprising in the research fraternity, we do not train researchers on how to systematically identify research gaps as basis for the investigation. This has continued to be a common problem with novice researchers. Unfailingly, very little theory and research has been developed on identifying research gaps as a basis for a line in inquiry.

The purpose of this research is threefold. First, the proposed theoretical framework builds on the five-point theoretical model of Robinson, Saldanha, and McKoy (2011) on research gaps. Second, this study builds on the six-point theoretical model of Müller-Bloch and Franz (2014) on research gaps. Lastly, the purpose of this research is to develop and propose a theoretical model that is an amalgamation of the two preceding models and re-conceptualizes the research gap concepts and their characteristics. Thus, this researcher proposes a seven-point theoretical model. This article discusses the characteristics of each research and the situation in which its application is warranted in the literature review

The significance of this article is twofold. First, this research provides theoretical significance by developing a theoretical model on research gaps. Second, this research attempts to build a solid taxonomy on the different characteristics of research gaps and establish a foundation. The implication for researchers is that research gaps should be structured and characterized based on their functionality. Thus, this provides researchers with a basic framework for identifying them in the literature investigation.

**Keywords:** Research methods, research design, theoretical framework, taxonomy, research gaps, new inquiry.

## Introduction

The idea of finding gaps in the research has been troubling for most researchers. For a considerable period of time, there were no formal or established frameworks for identifying or characterizing research gaps. Research gaps seem to be in the eye of the beholder. One researcher's gap may be another searcher's non-gap. A majority of this conflict with research gaps tends to tread on perception. Many researchers may argue that a gap is one thing or is not. It is still a struggle for most researchers, especially doctoral researchers to identify and define gaps in their studies. This article will introduce the *Seven Types of Research Gaps* [see Figure 1].

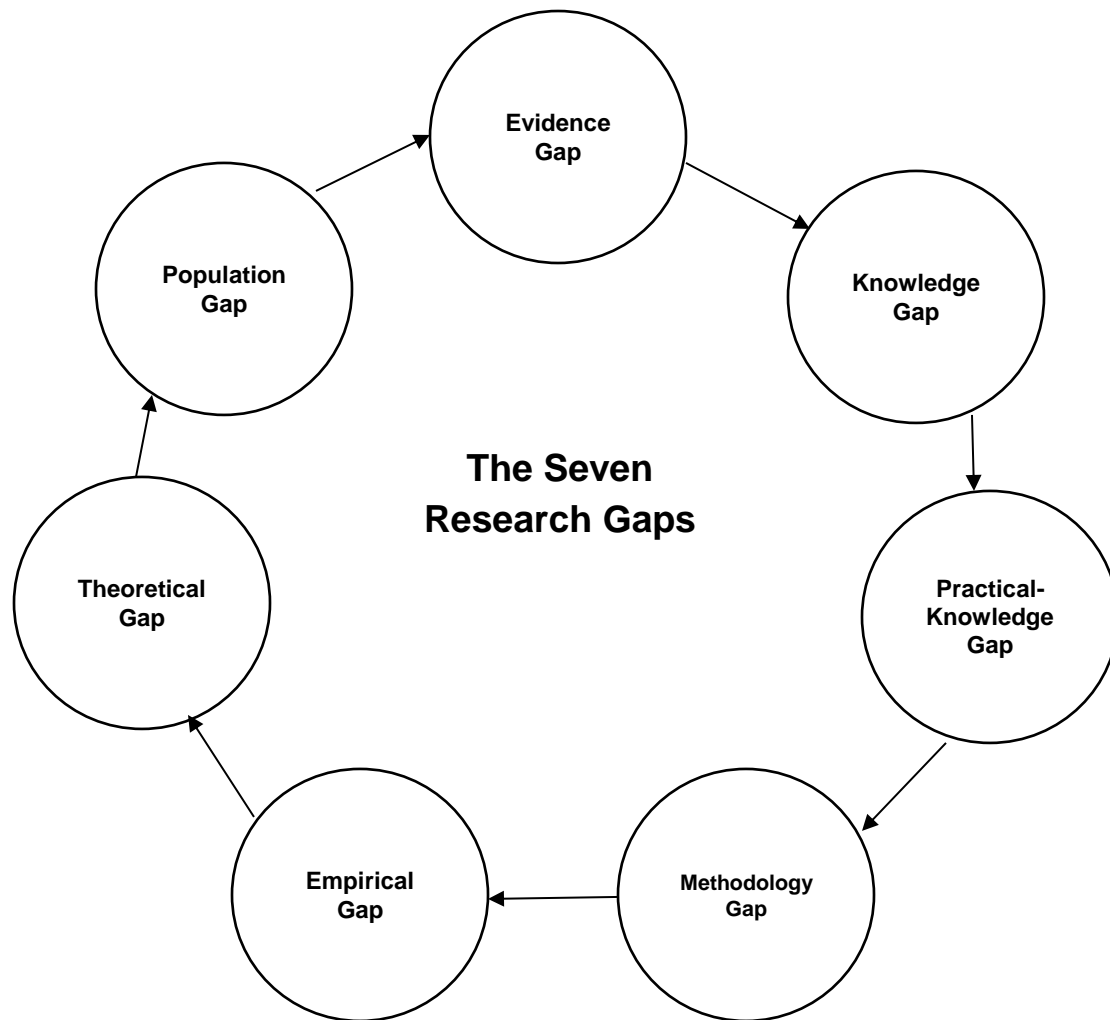
## Theoretical Foundation and Development

This theoretical model was developed from two important articles by two researchers in which does an outstanding job of building taxonomy of research gaps. The first known article that developed a framework for defining research gaps was by Robinson, Saldanha, and McKoy (2011). In their model, they identified and described five types of research gaps types: (a) *Population*, (b) *Intervention*, (c) *Comparison*, (d) *Outcomes*, and (e) *Setting*.

Müller-Bloch and Kranz, (2014) developed a research gap model that was developed from the Robinson, et al (2011) framework. Their theoretical framework was developed after an exhaustive research of conducting literature reviews. Their framework was based on Jacob's (2011) theory on research problems. Jacobs (2011) identified six kinds of research problems. These problems parallel research gaps as discussed by Miller-Bloch and Kranz (2014). While research problems are not necessarily research gaps, they might be synonymous with research gaps: Their framework of research gaps consisted of six gaps: (a) *Contradictory Evidence Gap*; (b) *Knowledge Void Gap*; (c) *Action-Knowledge Conflict Gap*; (d) *Methodological Gap*; (e) *Evaluation Void Gap*; and (f) *Theory Application Void Gap* [Müller-Bloch & Kranz, 2014].

The researcher found the framework proposed by Müller-Bloch and Kranz (2014) and Robinson, et al (2011) as significant theoretical developments on research gaps. Building on the foundation of the two theories, the researcher developed a theoretical framework that is an amalgamation of the two theorists. The researcher did two things. First, the new framework is a mixture of the two frameworks, only using one construct from Robinson et al's (2011) model. Second, the researcher re-conceptualized the model developed from Miller-Bloch and Kranz (2014), by simplifying the names of the constructs in their proposed framework. Miles (2017) proposed a new model built on the two previous models that consist of seven core research gaps renamed: (a) *Evidence Gap*; (b) *Knowledge Gap*; (c) *Practical-Knowledge Conflict Gap*; (d) *Methodological Gap*; (e) *Empirical Gap*; and (f) *Theoretical Gap*; (g) *Population Gap* [see Figure 1].

*Figure 1* Seven Types of Research Gaps



### **Evidence Gap**

An evidence gap occurs with a provocative exception arises if a new research finding contradicts widely accepted conclusions. This gap involves contradictions in the findings of the prior research. It occurs if results from studies allow for conclusions in their own right, but are contradictory when examined from a more abstract point of view. The identification of contradictory evidence starts with analyzing each research stream. Subsequently, the results from these analyses need to be synthesized in order to reveal contradictory evidence [Müller-Bloch & Kranz, 2014].

### **Knowledge Gap**

The knowledge gap is a common gap in the prior research. There are two settings where a knowledge gap (knowledge void) might occur. First, knowledge may not exist in the actual field

to theories and literature from related research domains. Second, it might be the case that results of a study differs from what was expected [Müller-Bloch & Kranz, 2014].

### **Practical-Knowledge Gap**

This kind of gap tends to be a discrepancy that can motivate new research in this direction. A practical-knowledge (action-knowledge) conflict arises when the actual behavior of professionals is different from their advocated behavior. In this case, research could seek to determine the scope of the conflict and to uncover the reasons for its existence [Müller-Bloch & Kranz, 2014].

### **Methodological Gap**

A methodological gap is the type of gap that deals with the conflict that occurs due to the influence of methodology on research results. This gap addresses the conflicts with the research methods in the prior studies and offers a new line of research that is divergent from those research methods. It is noted that it might be useful to vary research methods, especially if certain research topics have been mainly explored using a singular or common method [Müller-Bloch & Kranz, 2014].

### **Empirical Gap**

An empirical gap is the type of gap that deals with gaps in the prior research. This conflict deals with the research findings or propositions need to be evaluated or empirically verified. For example, the empirical gap often addresses conflicts that no study to date has directly attempted to evaluate a subject or topic from an empirical approach [Müller-Bloch & Kranz, 2014].

### **Theoretical Gap**

The theoretical gap is the type of gap that deals with the gaps in theory with the prior research. For example, if one phenomenon is being explained through various theoretical models, similar to a methodological gap conflict, there might be a *theoretical conflict*. Researchers and scholars could examine whether one of those theories is superior in terms of the gap in the prior research. Theoretical gaps are a common occurrence in examining prior research on a phenomenon [Müller-Bloch & Kranz, 2014].

### **Population Gap**

A population gap is a common gap recognized among researchers. There are always under-served populations that have been under-researched. This gap is the type of research regarding the population that is not adequately represented or under-researched in the evidence base or prior research (e.g., gender, race/ethnicity, age and etc) [Robinson, et al, 2011].

*Table 1:* The Seven Research Gaps

<b>Research Gap Type</b>	<b>Definition</b>
<b>Evidence Gap</b> (Contradictory Evidence Gap)	Results from studies allow for conclusions in their own right, but are <i>contradictory</i> when examined from a more abstract point of view [Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017].
<b>Knowledge Gap</b> (Knowledge Void Gap)	Desired research findings do not exist [Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017].
<b>Practical-Knowledge Gap</b> (Action-Knowledge Conflict Gap)	Professional behavior or practices deviate from research findings or are not covered by research [Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017]. .
<b>Methodological Gap</b> (Method and Research Design Gap)	A variation of research methods is necessary to generate new insights or to avoid distorted findings [Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017].
<b>Empirical Gap</b> (Evaluation Void Gap)	Research findings or propositions need to be evaluated or empirically verified [Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017].
<b>Theoretical Gap</b> (Theory Application Void Gap)	Theory should be applied to certain research issues to generate new insights. There is lack of theory thus a gap exists [Müller-Bloch & Kranz, 2014]. [Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017].
<b>Population Gap</b>	Research regarding the population that is not adequately represented or under-researched in the evidence base or prior research (e.g., gender, race/ethnicity, age and etc). [Robinson, et al, 2011].

**Source:** Robinson, Saldanha, & McKoy (2011); Müller-Bloch & Kranz, (2015); Miles, (2017).

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**Table 2:** Writing Up the Research Gaps and Selling the Research Proposal

Research Gap Type	Strategy Example and Write-Up
<b>Evidence Gap</b> (Contradictory Evidence Gap)	The researcher identified an apparent <i>evidence gap</i> in the prior research concerning _____. Previous research has addressed several aspects of _____: (1) _____ (cite two to three relevant articles), (2) _____ (cite two to three relevant articles), and (3) _____ (cite two to three relevant articles). However, the previous research has not address several contradictions in the findings concerning the prior research. The researcher has identified there is an <i>evidence gap</i> in the prior studies that are contradictory in the findings [Miles, 2017].
<b>Knowledge Gap</b> (Knowledge Void Gap)	The researcher identified an apparent <i>knowledge gap</i> in the prior research concerning _____. In addition, the prior research did not address the subject of _____. This encompasses several unexplored dimensions that lately have attracted research attention in other disciplines (cite two to three relevant articles). The _____ should be explored further to provide an understanding as to why such is not the case with _____ [Miles, 2017].
<b>Practical Knowledge Gap</b> (Action-Knowledge Conflict Gap)	There is appears to be a <i>practical- knowledge gap</i> in the prior research. There is a lack of rigorous research in the prior literature. Some of these unexplored _____ appear to be lacking in the practice of _____ field. The field of _____ is ripe for an investigation of practical focus research on _____> Many of the prior studies focus on the theoretical aspects of the field of _____. However, there are very few practical studies or action research in the field of _____. This is an important and worthy of investigation in the context of _____. An investigation of these issues is important because _____. Furthermore, previous theoretical research has focused primarily on _____ and very little practical- research has been done on _____ field [Miles, 2017].
<b>Methodological Gap</b> (Methodology Void Gap)	The researcher identified a <i>methodological gap</i> in the prior research. There is a lack of _____ research designs in _____. Based on the research we are trying implement as a research design, we found there is dearth in the prior research on _____ research designs. In this study we seek to establish a new inquiry on research designs with _____. We seek to extend _____ the research by addressing the gaps with _____ in the research methodologies with _____ [Miles, 2017].
<b>Empirical Gap</b> (Evaluation Void Gap)	There is appears to be an <i>empirical gap</i> in the prior research. There is a lack of rigorous research in the prior literature. Some of these unexplored _____ appear to be important and worthy of investigation in the context of _____. An empirical investigation of these issues is important because _____. Furthermore, previous research has focused primarily on qualitative research concerning _____. No study to date has directly attempted to empirically evaluate _____. Very little empirical research has been done on _____ [Miles, 2017].

<p><b>Theoretical Gap</b> (Theory Application Void Gap)</p>	<p>The researcher identified an apparent <i>theoretical gap</i> in the prior research concerning _____. The theory on _____ is rather dated and the current studies bear the fruit of this theoretical gap. Some of the prior theory appear to be important and a foundation worthy of recognition. However, an investigation in terms of _____ and theoretical development is warranted. An investigation of these issues is important because _____. Furthermore, previous theoretical models need to embrace contemporary research in _____ and related fields to provide a stronger theoretical basis for projects. The previous theory tends to focus primarily on _____. It does not encompass new paradigms in _____ [Miles, 2017].</p>
<p><b>Population Gap</b> (Under-researched Sub-Groups Gap)</p>	<p>Based on the review of the prior research, there is a <i>population gap</i>. Some of these sub-populations have been unexplored and under-researched. The _____ appear to be important and worthy of investigation in the context of _____. An investigation of this group is important because _____. Furthermore, previous research has focused primarily on this population of _____. Very little research has been done on _____ [Miles, 2017].</p>

### Writing up the Research Gaps in a Research Proposal

To discuss the gaps in the prior research, you first must highlight some of the prior research in the literature that does not address the particular focus of the research. The contributions noted should relate back to gaps, inconsistencies, and controversies noted earlier. See Example 1:

**Example 1:** (Identify the *research gap*) Previous research has addressed several aspects of \_\_\_\_\_. (1) \_\_\_\_\_ (cite two to three relevant articles), (2) \_\_\_\_\_ (cite two to three relevant articles), and (3) \_\_\_\_\_ (cite two to three relevant articles) [Summers, 2001].

Then, researchers need to identify important gaps, inconsistencies, and/or controversies in the literature. This serves to establish the need for additional research in the topic area of interest. This task, like those that precede it, can be achieved in a concise manner. See Example 2 and Example 3. Consider the following sample template below:

**Example 2:** (Identify the *research gap*) However, in addition, \_\_\_\_\_ encompasses several unexplored dimensions that lately have attracted research attention in other disciplines (cite two to three relevant articles) [Summers, 2001].

**Example 3:** (Identify the *research gap*) Some of these unexplored \_\_\_\_\_ appear to be important and worthy of investigation in the context of \_\_\_\_\_. An investigation of these issues is important because \_\_\_\_\_. Furthermore, previous empirical research has focused primarily on \_\_\_\_\_. Very little research has been done on \_\_\_\_\_ [Summers, 2001].



Finally, and most important, the researcher must provide a concise statement of the manuscript's purposes, the contributions the manuscript makes to the literature. This Statement should follow logically from the text that identifies gaps, inconsistencies, and/or controversies in the literature. See Example 4 and Example 5:

**Example 4:** In this study we seek to extend \_\_\_\_\_ by addressing the gaps in \_\_\_\_\_. The study investigates the impact of four \_\_\_\_\_ (1) \_\_\_\_\_, (2) \_\_\_\_\_, (3) \_\_\_\_\_, and (4) \_\_\_\_\_. In addition, interrelationships among \_\_\_\_\_ are examined [Summers, 2001].

**Example 5:** The researcher identified four major gaps in the prior research and literature. First, the researcher identified an apparent theoretical gap in the prior research concerning \_\_\_\_\_. The previous research has addressed several aspects of \_\_\_\_\_: (1) \_\_\_\_\_ (cite two to three relevant articles), (2) \_\_\_\_\_ (cite two to three relevant articles), and (3) \_\_\_\_\_ (cite two to three relevant articles).

Second, based on the review of the prior research, there is a population gap. There is gap with \_\_\_\_\_. This population segment has been under-researched in the prior literature. In addition, \_\_\_\_\_ encompasses several unexplored dimensions that lately have attracted research attention in other disciplines (cite two to three relevant articles).

Third, the researcher identified an apparent knowledge gap in the prior research concerning \_\_\_\_\_. In addition, the prior research there is a conflict and contradiction in the findings of the prior studies that did not address the subject of \_\_\_\_\_. Some of these unexplored \_\_\_\_\_ contradictions in the prior research appear to be important and worthy of investigation in the context of \_\_\_\_\_. An investigation of these issues is important because \_\_\_\_\_.

Lastly, the researcher identified an empirical gap in the prior research. There is a lack of rigorous research in the prior literature. The previous research has focused primarily on \_\_\_\_\_. Very little research has been done on \_\_\_\_\_ to properly evaluation the problem. In this study we seek to provide a new inquiry on management practices with the federal government by addressing the gaps in \_\_\_\_\_. The study investigates the impact of four: (1) \_\_\_\_\_, (2) \_\_\_\_\_, (3) \_\_\_\_\_, and (4) \_\_\_\_\_ [Summers, 2001].

## **Conclusions and Summary**

This article proposed a theoretical model based on the two preceding models concerning research gaps. This article examined the different types of research gaps and the characteristics that afflict researchers and offers a theoretical framework that simplifies the concepts on research gaps. This research contributes to the practice of research by providing a taxonomy for novice and

experienced and the importance of understanding the different constructs of research gaps and their functionality. We propose a seven-point theoretical framework that encompasses the most common gaps a research will encounter in a review of the prior research and literature. The foundation of research is based on asking questions and finding a new line of inquiry based on gaps in the prior research. This is a driving force in the inquiry of new knowledge. We hope that our proposed framework will provide researchers with a template and a foundation for conducting a systematic and thorough literature review.

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