

# **The Anatomy of an Empirical Research Manuscript Suitable for the Peer-Reviewed Health Administration Literature**

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## **Introduction**

Successful authors develop skills in both the art and the science of publishing. The art involves creatively framing a manuscript around an important topic, synthesizing previous literature in a succinct and meaningful way, and communicating the academic and practical implications of the research. Writing artfully is a subtle and intangible skill best learned through experience, mentorship, and practice.

Skills in the science of publishing involve organizing the manuscript, presenting a logical flow of ideas, and providing a format expected by reviewers and editors in a given field. Promising articles that are inappropriately structured, ill-communicated, or poorly written are frequently rejected because reviewers and editors find it difficult to assess the merits of the study (Pierson 2004, Plaisance 2003).

To help inexperienced writers, seasoned researchers from various academic fields including medicine, nursing, dentistry, and others have produced guides on how to publish in their respective disciplines (Diehl 2007, Welch 1999, Pukkila 2007, Kliewer 2005, Kern and Bonneau 2003, Naylor and Munoz-Viveros 2005). Although helpful, these guides do not address the uniqueness of the health administration (HA) discipline and offer only general advice or advice

more suitable for clinical journals. To our knowledge, no such guide exists for HA scholars interested in learning more about the skeletal make-up of a manuscript suitable for the peer-reviewed HA journals.

Drawing on our collective experience as published authors, editors, and journal reviewers, we document a format that we have found helpful when writing an empirical piece for publication. Many successful formats exist, and although we draw on the work from the other disciplines mentioned previously, our advice is tailored specifically for HA scholars. This work will be of interest to doctoral students, junior faculty members, and others interested in seeking to improve the quality of their submitted manuscripts.

## **Structuring HA Empirical Articles**

The key to successful publishing is manuscript organization and the presentation of a logical (and expected) flow of ideas. Therefore, we break down each component of an empirical manuscript and offer guidance on what to include in that section. Although our intent is to focus on the science skills germane to writing for an HA journal, we also include helpful hints about the art of publishing.

### ***The Title***

Sometimes developing a descriptive and compelling title can be one of the most difficult tasks in developing a manuscript. Titles should accurately describe the study and, at the same time, pique the interest of those interested in the field of study. However, boiling down an extensive research study into a few descriptive words is often difficult. Short titles can be too succinct and not communicate the true nature of the study. Extremely long titles are cumbersome and suggest a lack of grasp of the true nature of the research.

For empirical articles, independent and dependent variables provide a good starting point for developing the article's title—how one set of variables influences another set (e.g., the relationship between X and Y; how X affects Y; X: the impact of Y and Z). This approach usually gets to the heart of the article quickly and provides a core concept on which the rest of the article can be built.

**Helpful hints:** Use a working title while developing the article. After every section has been written, developing a truly compelling title will be much easier. Thus, develop the final title last. Titles of most empirical articles are in the range of 12 to 15 words. (**NOTE: The *Journal of Healthcare Management* limits titles to no more than 20 words.**) As a rule of thumb, fewer words in a title are probably better than more words, and more than 20 words is most likely too many. Clever or catchy titles (plays on words, puns, irony, well-worn sayings, etc.) are not necessary for well-written and well-structured articles. Often, editors and reviewers are distracted by catchy titles and confusion can ensue if the intended meaning is not conveyed. Editorials, commentaries, and rejoinders usually work better with clever titles than do empirical articles.

### ***The Abstract or Executive Summary***

An abstract or executive summary tells the whole story—the purpose of the article, why it is important, the methods employed, the results found, the relevance of the results, and the implications of the results. Each journal has unique requirements regarding how the abstract should appear. (**NOTE: The abstract in the *Journal of Healthcare Management* is referred to as the Executive Summary and is limited to 250 words.**) Structured abstracts are those with specific subheadings, while unstructured abstracts are free text. Check the “instruction to authors” for a given journal to determine how the abstract should be laid out. Generally, abstracts

are limited to a specified number of words, typically around 250. In the abstract, each section of the manuscript must be succinctly summarized in one or at most two sentences. For example, a single sentence is used to describe the purpose and relevance of the study, another sentence to describe the analysis methods, and so on.

Abstracts should be original material based on key sentences derived from the introduction or discussion. Do not just copy and paste from elsewhere in the article. The abstract should be written after the article is reasonably complete because different aspects of the article may change before submission to a journal. To begin writing an abstract, write one sentence for each major heading in the same order as presented in the article. Try to limit your initial attempt to 200 or so words and then adjust according to the requirements of the targeted journal.

**Helpful hints:** The importance of abstracts cannot be understated. In some cases, this section may be the only thing a reader will see to determine if your work is worthy of further attention. For reviewers, this is the first opportunity to understand what you are about to present. Unclear or disjointed abstracts can quickly tax the cognitive load of a reviewer or editor, thus setting a negative tone for evaluators of your work.

Carefully read the instructions to authors for the specific journal you are targeting. When your abstract does not fit the journal's requested style, you are demonstrating that you (a) cannot follow directions, or (b) your article was previously rejected from a different journal and you did not make the necessary changes to improve your manuscript for publication in this newer journal.

## ***The Introduction Section***

The introduction is responsible for selling the article to readers and motivating them to read further. A successful introduction frames the article, lets the reader know what you are doing and why, and comments on who should be interested in this work. By the end of a well-cited introduction, the reader should know how your article fits into the larger context of the discipline or topic.

Ideally, the introduction section of an empirical article should have three (sometimes four) paragraphs. The first paragraph should be a background paragraph that describes the general problem and current situation. The second paragraph should describe the specific problem you are addressing within the overall framework outlined in the first paragraph. The third paragraph should address the purpose of your article and outline how your study will help address the specific problem found in the second paragraph. Some more complex or detail-oriented issues will warrant an additional paragraph between the second and third to further articulate the nature of the specific problem being addressed. All but the last paragraph of the introduction should be heavily cited, preferably with appropriate use of citation-strings that synthesize previous work relevant to the arguments being made. Using as many as ten or twenty citations is not uncommon in this section.

**Helpful hints:** The introduction should be clear and concise. It should be written in a simple, jargon-free manner that sufficiently educates a novice reader while simultaneously convinces a subject matter expert that you have enough knowledge about the topic to write about it. A common weakness in poor manuscripts comes from the inexperienced authors' tendency to include everything they know about the topic in the introduction in an effort to demonstrate a wide grasp of the issue. Ironically, doing so does not display mastery but rather insufficient

thought as to what is important (relevant) and what can be disregarded as superfluous information at the point of the introduction.

### ***The Background Section***

The background section is often called the “theory” or “conceptual framework” section and can be labeled as such in the manuscript. This section is designed to further frame or organize the research effort and provide a more comprehensive research context. The main purpose of this section is to provide the reader with a richer understanding of the phenomena you are studying. To do so, introduce a theoretical underpinning or at least a well-cited review of the literature that specifically examines the variables (or constructs) that you are studying.

Theories are abstractions that attempt to identify, simplify, and explain processes, patterns, and relationships inherent in a phenomenon. Without some type of organizing framework or theory, research often becomes overwhelming, muddled, and disjointed and loses cause and effect relationships. Without theory, what is generalizable from a study and what is specific to it are indistinguishable. To advance a field of study, we must rely on theory as the unifying context.

In some cases, a single theory will underpin your work. For the most part, in such cases, the single theory will have been accepted as a coherent set of propositions that adequately explains a phenomenon. In the background section, introduce and describe the theory relevant to your work. Provide an overview of previous literature supporting or refuting this theory. If applicable, consider generating testable hypotheses or research questions from your discussion of the literature as it pertains to your current study.

If a single theory does not apply, describe tenets from multiple theories that are relevant. Again, cite previous literature that addresses each component of theory that is applicable to your study.

To the extent possible, consider formulating hypotheses or research questions. Doing so forces you to explain how the theoretical underpinning you are describing is expected to influence the specific relationship between variables that you are examining in this article.

Lastly, in some instances when no theory applies, build arguments from a review of the relevant literature to forecast the expected relationships between variables in your study.

**Helpful hints:** Generally accepted theories and conceptual frameworks in the field provide an easy shortcut to explaining the purpose and nature of research. The presentation of a theoretical or conceptual model generally enhances the appeal of the study as it will provide context for a wide audience. First, briefly and broadly present the theory or conceptual framework. Then focus the reader on the specific part of the theory being studied and eliminate those elements beyond your study. Cite the literature that supports as well as those studies that refute your supposition. If you present hypotheses or research questions, do not overdo it—two to four key relationships is probably enough for a well-focused article.

### ***The Methods Section***

The methods section is detailed but relatively straightforward. The reader must get a well-grounded understanding of how the study was conducted. Note that while certain details are essential, a natural tension exists between providing too much information (i.e., overkill) and not providing enough. Some authors feel as though the methods sections should provide enough detail to enable someone to replicate the study. This approach may not be as important in social science or healthcare research as the ability to evaluate the generalizability of the study.

Effective, easy-to-follow methods sections typically begin with an overview statement about the study design. The study design describes the nature of the study (e.g., experimental, longitudinal,

cross-sectional, blinded) and the type of data used (e.g., primary, secondary, qualitative). Next, the author should provide information about the population of interest, with a justification of why this population is important to study given the nature of the problem. Once the argument for the study population is made, the author should describe the nature of the dataset.

If primary data were obtained, a section should follow that describes how the data were collected, how respondents were identified and targeted, who was excluded and why, whether incentives were provided for participation, and how data were entered and/or coded. If a survey was used, include information on how individual questions were developed and validated. If secondary data are used, a section describing by whom and how the data were collected should be provided. In the event that the secondary data are relatively widely used in the field (e.g., American Hospital Association data), the author should provide an overview of the dataset and provide references that point the interested reader to more information about the data source and how that data can be obtained. Regardless of data source, the author should state whether institutional review board (IRB) approval was obtained. If IRB approval was not obtained, an explanation is warranted.

Next, the methods section should address the variables examined and the statistical analyses employed. The author should explicitly describe how each variable is measured, operationalized, or manipulated for analyses. For example, hospital size can be measured continuously based on the number of staffed inpatient beds available, categorically based on ranges computed from the continuous measure of number of beds, or dichotomously as “large” or “small” based on some definition. Moreover, the continuous measure of bed size may be transformed (e.g., logarithmically) to prepare it for analysis. The author should provide sufficient detail on how each variable is handled. Once the variables are sufficiently described, the author should provide



information about the statistical tests and statistical software used. We often start with a brief sentence or two about how the variables of interest were examined for anomalies and for meeting the assumptions of our analyses (e.g., using descriptive statistics). Next, univariate statistical approaches used should be described. Lastly, multivariate models, if any, should be described in enough detail that the reader can envision the type of output they would expect given the analyses pursued. This description is important given that tables presented in the text should correspond to what the reader is expecting (more on this issue later).

**Helpful hints:** The methods section should be clear and relatively jargon free. The art of the methods section is organizing all of the information so that it tells a story that begins with a brief overview of the methodology. Tables and figures (**NOTE: Both are called *exhibits* in the *Journal of Healthcare Management***) can be useful when presenting variables and their measurement. A common mistake is to provide results in the methods section. Results, such as response rates, means, regression coefficients, and so forth, should not be included in the methods section.

### ***The Results Section***

The results section is arguably the easiest to write because very little art goes into its crafting. This section should include the pertinent findings from your analyses, free of editorial comments or references to previously published work. Tables or figures representing data not directly analyzed in your article should not appear in the results section.

The first paragraph of the results section should begin by describing the characteristics of your sample. If primary data were collected, the response rate should be reported first. When describing the characteristics of your sample, the text should succinctly highlight some trends

and refer to an exhibit that displays more comprehensive descriptive statistics. In many articles, the first exhibit displays the demographic or organizational characteristics of the subjects being examined.

In the second paragraph, present the results, if any, from univariate analyses. Again, provide succinct descriptions in the text but use exhibits that more robustly display the actual results for your analyses. After presenting the univariate results, proceed with a third paragraph to describe the multivariate results (if any) of your study. Judicious use of well-thought-out exhibits that display the results of statistical analyses should be included. Note that overly complex exhibits that are not intuitively laid out can frustrate readers who are not familiar with the points you are trying to highlight. Each exhibit should stand alone—it should contain all the necessary information in the caption and the table itself so that it can be understood independently of the text.

After the main multivariate findings of your study are presented, a fourth paragraph can be devoted to the presentation of findings not germane to the main focus of your study. For example, if several control variables used in your multivariate analyses had interesting results, present them in this section.

**Helpful hints:** A good results section is short and to the point. The text is succinct and the exhibits are easy to follow. Resist the temptation to begin commenting on the findings when you first present them. Do not editorialize in the results section; terms such as *interestingly* or *curiously* do not belong here. Peruse previously published articles using similar methods in the HA journal you want to target for ideas on how to layout and format exhibits.

## ***The Discussion Section***

The discussion section is where you comment on your results, explain them, and tie them back to the existing literature. You will also comment on the weaknesses and strengths of the study and offer thoughts about implications the findings may have to future research and practice. You may begin the discussion section with a paragraph that restates the purpose of the study within the context of the problem stated in the introduction section. Essentially, condense the three paragraphs from the introduction section into one paragraph that artfully restates the purpose of the study. This reminds the reader of how the overall article fits into the existing knowledge base on the topic and prepares them for the next paragraph, in which you comment on your main findings.

The second paragraph of the discussion section should focus exclusively on the single most important finding of the current research effort. This main finding should be directly related to the purpose of the study and should be restated without using statistical jargon. In this paragraph, link your findings to the existing literature by using citations and articulate to the reader whether your results support or refute previous work. To the extent your methods and results support, discuss what your findings mean.

The next paragraph(s) should focus on the second (and third or more) most important findings of your study. Again, as in your previous paragraph, link these findings to the existing literature and comment on what the findings mean. Most studies will not have more than two or three secondary main findings. Secondary findings typically but not always stem from findings related to control variables or interactions between variables.

Once you have discussed the main contributions (e.g., the most important findings) of your article, transition into a frank discussion of the limitations of the study. First highlight the

strengths. Highlighting strengths allows the reader to balance the limitations given the strong suits of the study. If your study has a relatively weak design but is the first such study on an important topic, say so. The limitations listed should cover issues related to the reliability of the data, the validity of measures used, any biases that could have affected your results, the limitations of the study design, and any other issues that may have influenced your study.

The discussion section can then include a paragraph that describes opportunities for future research. Surely your study did not definitively address the problem you were examining. What types of other studies, particularly those addressing some of the limitations you just discussed, can be carried out to advance the knowledge base on your topic?

Lastly, given the multidisciplinary and applied nature of HA, most (if not all) research in our domain must ultimately yield practical implications to managers in health organizations and other decision makers. In the final paragraph or two of the discussion section, develop a section that addresses how the overall findings of the study affect decision makers in health organizations. These concluding paragraphs should convey how you believe your results affects managers or other stakeholders. **(NOTE: The *Journal of Healthcare Management* requires the inclusion of explicit implications for healthcare management.)**

**Helpful hints:** A common novice's mistake includes overselling the results. Careful thought should go into how the implications of your results are discussed. For example, if your study had a cross-sectional observational design that could not detect causality, do not insist that a causal relationship underlies the variables you studied. Instead, be cautious about the conclusions you make. Second, when disclosing limitations do not foolishly assume that focusing on your studies weaknesses will provide fodder for an editor or reviewer to reject your article. Instead, a

well-thought-out and honest set of limitations conveys to the reader that you understand the boundaries of scientific merit associated with your study.

## **Conclusion**

Knowledge of both the art and science of publishing in HA journals is important for scholars in the field. In this article, we focused on the science, which includes the logical organization and formatting of a manuscript. Ultimately, published authors learn to enhance their manuscripts' organization with artful expression and astute synthesis of previous literature. However, effective manuscript organization is essential for manuscript acceptability; thus authors must start with an appropriately structured manuscript that can then be further sculpted and crafted.

Although several successful approaches to organizing an empirical article exist, the one described herein has contributed to our personal success in publishing. To further aid the developing author, we have compiled an abridged checklist, highlighting the points we make regarding manuscript preparation and organization (the checklist follows this page). Ultimately, regardless of the organizing scheme used, logical structure is essential in successfully meeting the needs of editors and reviewers of HA journals. Inexperienced writers should adopt and learn the science of manuscript development. Once you have mastered the anatomy of a publishable manuscript, the art of writing can be further developed through experience, practice, and mentorship.

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## **Checklist for Submissions to a Peer-Reviewed Health Administration Journal**

- Title accurately reflects the content and conclusion of the manuscript
- Executive Summary/Abstract succinctly states the purpose of the article and why the study is important
- Executive Summary/Abstract describes the method(s) employed in simple-to-understand terms
- Executive Summary/Abstract contains a description of the results of the study and implications for practice and further research
- Introduction is a to-the-point description of the general topic or issue addressed in the manuscript
- Conceptual or theoretical framework for the study is presented with supporting relevant literature review
- Manuscript is clearly focused on the aspects of the theory or conceptual framework that relates specifically to the study at hand
- Method(s) used are described in sufficient detail that the typical reader in the targeted audience can anticipate the type of results and assess generalizability
- Results are presented in a clear and succinct (non-editorialized) manner
- Results flow logically from the analysis presented
- Discussion of results is defensible based on the methods used and data presented
- Limitations of the study are adequately discussed and areas for future research are outlined
- Practical implications to managers in health organizations are described and discussed

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