

Methodological Characteristics and Improvement Strategies of Case Studies in Academic Journals

Authors: Hu Yan, Wang Sen

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Abstract

Purpose To reveal the principal characteristics of case method application in academic journal research and propose strategies for future improvement. **Methods** Using Chinese Journal of Scientific and Technical Periodicals as the data source, we collected journal case study papers published from 2015 to 2022 and conducted statistical analysis across five dimensions: research orientation, case type, case quantity, data source, and analytical style. **Results** In existing journal case studies, descriptive research far exceeds explanatory research; case types are diverse but unevenly distributed; single-case studies constitute the vast majority; observational and textual data are more frequently used while interview data is less utilized; different analytical styles such as quantitative and qualitative are relatively balanced. **Conclusion** Future journal case studies should emphasize theoretical construction, strengthen explanatory research, value interview data, broaden data acquisition channels, emphasize experimental methods, and enhance analytical standards.

Full Text

Methodological Characteristics and Improvement Strategies of Case Studies on Academic Journals

HU Yan

Editorial Department, East China Normal University
3663 North Zhongshan Road, Putuo District, Shanghai 200062, China

Abstract:

[Purpose] This study aims to reveal the main characteristics of case method application in academic journal research and propose strategies for future improvement. [Methods] Using *China Journal of Science and Technology Research* as the data source, we collected case study papers on journals published between 2015

and 2022, and conducted statistical analysis across five dimensions: research orientation, case type, number of cases, data sources, and analysis style. [Findings] Existing journal case studies show that descriptive research far exceeds explanatory research, case types are diverse but unevenly distributed, single-case studies constitute the vast majority, observational and textual data are used more frequently than interview data, and different analysis styles (quantitative, qualitative, and mixed) are relatively balanced. [Conclusion] Future journal case studies should emphasize theoretical construction and strengthen explanatory research, prioritize interview data and broaden data acquisition channels, and emphasize experimental methods to improve analytical sophistication.

Keywords: Academic journals; Case studies; Methodological characteristics; Improvement strategies

1. Problem Statement

In recent years, China's academic journal publishing industry has developed rapidly, with overall journal quality improving significantly and a number of internationally influential academic journals emerging. Correspondingly, academic journal research has also developed quickly, with increasing research output, improving quality, and increasingly diverse research objects and methods, producing many excellent scholarly achievements. Academic journal research not only draws rich resources from publishing practice but also uniquely supports concrete publishing activities. This two-way support between research and practice is prominently reflected in the continuous emergence of journal case studies. These case studies summarize and promote journal management experience, discuss universal issues in journal publishing from individual cases, and reveal many problems that are easily overlooked in cross-case research, thus holding important value. Precisely because of this unique value, case studies have received growing attention across multiple fields. In May 2022, the Publicity Department of the CPC Central Committee and the Ministry of Education jointly issued the *Action Plan for High-Quality Development of Philosophy and Social Sciences in Universities Toward 2035*, emphasizing the promotion of case studies with Chinese characteristics. In March 2021, the China Case Study Journal Alliance was formally established, with 26 member units taking the lead in establishing case study columns¹. In September 2022, the first China Case Construction International Symposium was held.

As a relatively mature research method, case study has its own theoretical foundation and has formed rigorous academic norms. However, existing journal case studies in China still exhibit certain methodological characteristics and issues that warrant systematic examination. While previous studies have explored the application of case methods in journal research⁴, no research has yet conducted a methodological investigation based on a broad collection of existing case studies. Understanding the current state is a prerequisite for future improvement. Therefore, this paper, based on collected case analysis research data, examines methodological characteristics, reveals potential problems, and attempts to pro-

pose directions for future improvement to continuously enhance the quality of journal case studies and better serve the deepening of academic research and the development of publishing practice.

2.1 Conceptual Definition

“Case study” is a widely used research method in social science research, with its application fields continuously expanding and frequency of use increasing in recent years⁵. Unlike cross-case research that examines larger samples, case study focuses on fewer samples (hence also called “individual case study”). This significant difference in sample size determines many distinctions between case study and cross-case research. For instance, regarding research hypotheses, case study tends to generate new hypotheses while cross-case research tends to test existing ones; regarding causal relationships, case study focuses on explaining causal mechanisms while cross-case research focuses on analyzing causal effects; regarding data accessibility, case study data are relatively concentrated while cross-case research data are relatively dispersed⁶. Compared with cross-case research, the prominent advantage of case study lies in its ability to conduct in-depth and detailed analysis of a few cases by fully utilizing various data sources. Based on this and considering the reality of journal research, this study only examines research focusing on no more than three cases.

“Journal case” emphasizes that a study centers on the overall development of one or several journals as its research focus. In recent years, numerous case analysis papers have emerged in China’s academic journal research field. In terms of research objects, existing studies have examined cases at different levels: some focus on the overall development of one or several journals, some focus on specific parts of journal operations (such as columns, peer review systems, cover design, etc.), and some focus on journal publishing institutions. All these belong to the category of case studies. Regardless of whether they focus on a specific part of a journal or the publishing institution where the journal resides, they ultimately focus on the overall development of a particular journal. Therefore, this study primarily focuses on journal case studies—those that explicitly indicate their main content as the overall development of one or several journals (as identified in paper titles by terms such as “influence,” “branding,” “development path,” or “publishing model”).

In summary, the main principles for data selection in this study are: the cases examined in a study must be “journal cases” rather than cases at other levels; and the number of journal cases examined in the study must not exceed three.

2.2 Data Sources

Based on the above conceptual definition, the primary data source for this study was determined to be papers published in *China Journal of Science and Technology Research* between 2015 and 2022. This selection was based on three main considerations: this journal is widely recognized as representative in the

field of academic journal research in China; it publishes a large number of research papers on journal cases; and it has implemented structured abstracts across all issues since 2015, facilitating element analysis of its papers. After manually searching and preliminarily reviewing all papers published between 2015 and 2022, and strictly following the selection principles mentioned above—excluding research on cases at other levels and studies focusing on more than three cases—64 papers meeting the analysis criteria were finally identified as the main objects of this study, including 10 papers from 2015, 6 from 2016, 10 from 2017, 10 from 2018, 7 from 2019, 8 from 2020, 4 from 2021, and 9 from 2022.

2.3 Methods

This study focuses on analyzing the characteristics exhibited by existing research in its application of case analysis methods. Based on an analysis of general features of case study methods and considering the particularities of journal research, this paper summarizes the main analytical dimensions for examining the methodological characteristics of existing research: research orientation, case type, number of cases, data sources, and analysis style. Each dimension is further divided into several indicators. Generally speaking, research orientation concerns the purpose of the study and can be divided into descriptive research and explanatory research. Case type focuses on the position of the selected case within its overall population, including five types: extreme case, typical case, deviant case, diverse case, and participatory case. Number of cases concerns how many cases a study examines; as mentioned earlier, this study only focuses on research examining no more than three cases. Data sources concern how research data are obtained and can be roughly divided into three types: observational data, interview data, and textual data. Analysis style focuses on the main style exhibited when analyzing data, including three types: qualitative analysis, quantitative analysis, and mixed analysis. Based on this framework, this study determines the methodological characteristics of each selected paper and then conducts comprehensive statistical analysis. It should be noted that for the sake of convenience, only brief definitions of each dimension and its indicators are provided here; more detailed definitions and explanations are presented in the “Results and Analysis” section.

3. Results and Analysis

Based on the methodology described above, this study counted the number of case studies conforming to different characteristic indicators under each of the five dimensions—research orientation, case type, number of cases, data sources, and analysis style—yielding statistical results of the main methodological characteristic indicators of journal case studies (see Table 1).

According to these statistical results, a methodological examination of journal case studies reveals five main characteristics in the application of methods in

recent years.

3.1 Research Orientation: Descriptive Research Far Exceeds Explanatory Research

Regarding research orientation, case studies are typically divided into three types: exploratory, descriptive, and explanatory. Exploratory case studies aim to identify research questions or procedures for subsequent research; descriptive case studies aim to describe phenomena in real life; and explanatory case studies seek to explain the causes and processes of phenomena⁷. Strictly speaking, exploratory case studies are more like a preparatory stage before formal research rather than an independent research type. In the specific field of journal case studies, purely exploratory research is rare, and papers on exploratory research published in academic journals are even rarer. Therefore, for journal case studies, there are in fact mainly two types: descriptive research and explanatory research. Descriptive research focuses on describing specific measures taken in the publishing process and their outcomes, while explanatory research focuses on theoretically explaining these measures and outcomes—that is, explaining from theory why these phenomena occur and what their theoretical basis is. In fact, both types have universal aspirations: descriptive research expects that the publishing experience it reveals can serve as a reference for more journals, while explanatory research expects that the theories it proposes can explain more similar phenomena.

The statistics show that descriptive research (61 studies) far exceeds explanatory research (3 studies) in journal case studies. In other words, studies introducing specific journal management measures and their outcomes far outnumber those that aim to discover, verify, or falsify general theories that can explain related phenomena. This is certainly fundamentally related to the fact that journal case studies are more application-oriented—that is, they are primarily aimed at solving the practical problem of how to run journals well, and most studies' main purpose is not to discover or test theories. According to the statistics, very few studies explicitly propose research hypotheses and attempt to test them empirically (only 1 study). However, application-oriented research is often also based on certain theories, and theories can likewise guide specific publishing practice. Moreover, as previously mentioned, generating new hypotheses is an advantage of case study methods, and the scarcity of explanatory research in journal case studies means this unique advantage is not being fully utilized. From this perspective, journal case studies need to pay more attention to explanatory research.

3.2 Case Type: Diverse but Unevenly Distributed

Case type concerns the position of the case examined in a study within the overall population of cases. John Gerring proposes multiple case types, including typical cases, diverse cases, extreme cases, deviant cases, influential cases, and crucial cases⁸. Based on this classification and considering the characteristics

of academic journal work and the current state of journal case studies, this paper identifies the following case types: typical cases—representative cases, such as a journal whose influence represents the average level of similar journals or a newly established journal in a certain field; extreme cases—cases that are well or poorly developed in terms of influence, such as journals with the highest or lowest impact factors; deviant cases—cases that do not follow general publishing patterns, such as where measures normally effective for improving influence have the opposite effect on a journal; diverse cases—cases with considerable variation, such as journals with obvious influence fluctuations or particularly diverse measures; and participatory cases. It should be noted that many studies do not specifically explain their case selection considerations. Therefore, when determining the type of case selected in a study, it is necessary to reanalyze the case based on the specific content of the study. Nevertheless, some cases are difficult to classify into the above types. These are mainly journals where the researchers themselves work, and the research seems to be conducted not so much for academic discussion as for summarizing and sharing their own publishing experience. Therefore, from the perspective of case selection, researchers may not have selected a case or cases after extensive comparison to solve an academic problem, but rather because they participated in the specific publishing work of the case and were more familiar with it, they decided to conduct research based on that case. Such cases can be classified as “participatory cases.”

The statistics show: extreme cases 18, typical cases 9, deviant cases 0, diverse cases 3, and participatory cases 34. Specifically, two main characteristics are evident: (1) The number of participatory cases is large. Journal research, especially journal case studies, is mainly oriented toward concrete publishing practice, resulting in a large number of experience summary and sharing studies. Such studies inevitably require researchers to select cases they are most familiar with. From the perspective of case selection, choosing such cases is quite natural. We found that in all participatory cases, the primary researcher’s institution is identical to the case journal’s institution. Objectively speaking, the use of participatory cases facilitates data acquisition and thus enables in-depth analysis, but it also carries potential risks such as insufficient comparative research and overly subjective analysis. (2) The numbers of extreme cases and typical cases are also large. The analysis finds that many studies select better-developed or more representative journals in a certain field, mostly hoping to summarize and share successful experiences. Relatedly, no studies focusing on deviant cases were found. Normally, deviant cases must exist, but their discovery depends more on the publishers themselves because they best understand the relevant situations of deviant cases. However, since deviant cases are more likely to be considered failures, research on them focuses more on summarizing failure lessons rather than successful experiences. Consequently, as publishers, researchers are often unlikely to publish such findings.

3.3 Number of Cases: Single-Case Studies Predominate

Compared with large-sample cross-case research, case studies examine fewer cases, making in-depth analysis possible and representing a fundamental characteristic of case study methods. The analysis finds that studies examining one case are the most numerous (59 studies), while studies examining two cases (4 studies) and three cases (1 study) are extremely rare. Notably, the four studies examining two cases did not select different cases for comparative purposes as is typical; instead, they selected two journals of the same type published by the researcher's institution or Chinese and English versions of the same journal—perhaps related to the convenience of data acquisition. This also indicates a current lack of comparative research focusing on a small number of cases, even though comparative research is also an important means for case studies to address issues of detailed description and theory construction.

Regarding research design, single-case studies mainly include cross-sectional and longitudinal studies. Cross-sectional studies focus on describing and analyzing the current state of cases, primarily relying on cross-sectional data and mostly static analysis. Longitudinal studies focus on describing the developmental history of cases, primarily relying on longitudinal data and mostly dynamic analysis. Of course, cross-sectional studies may also involve longitudinal analysis, and longitudinal studies may also involve cross-sectional analysis. Therefore, the distinction made here is only typological, focusing on the overall characteristics of a study's research type. Based on this distinction and the discussion above, further analysis reveals that among the 59 single-case studies, 50 are cross-sectional and 9 are longitudinal; 57 are descriptive and 2 are explanatory. This means that in single-case studies, the vast majority are cross-sectional and descriptive.

Due to their focus on a single case, single-case studies have unique advantages, particularly in data comprehensiveness and analytical depth, which are prerequisites for researchers to describe the basic situation of journal cases and summarize specific publishing experience. However, the scarcity of cross-case comparative research and the predominance of cross-sectional and descriptive studies in single-case research indicate that current journal case studies still place greater emphasis on summarizing their own publishing experience and somewhat neglect theory construction, which requires more emphasis on causal analysis and thus greater attention to historical data and cross-case comparison.

3.4 Data Sources: Observational and Textual Data Predominate, Interview Data Are Rare

Broadly speaking, case study data sources are mainly divided into three categories: observation (including general observation, participant observation 9, etc.), interviews (including structured interviews, unstructured interviews, etc.), and texts (mainly various quantitative data obtained from journal databases and new media content, which also forms the basis for content analysis methods 10).

Overall, studies using observation to obtain data appear most frequently (58 studies), textual methods appear second (45 studies), and interview methods appear least (2 studies). Among studies using observation, the vast majority (57 studies) have authors from the same institution as the case journal, indicating that such observation is mainly participant observation of the specific publishing work of journals where the researchers themselves work. Textual data appear frequently, mainly related to the characteristics of journal work itself. Evaluating the effectiveness of journal work mostly involves quantifiable indicators (such as impact factor, ratio of funded papers, reprint rate, and other common metrics), and with the continuous improvement of various journal databases, data on these indicators can be relatively easily extracted. Notably, 43 studies used both observational and textual data, indicating that nearly two-thirds of studies used diversified data.

Obtaining interview data requires specialized interviews or questionnaires. Compared with observational data (especially participant observation) and textual data obtained through database retrieval, interview data are more difficult to acquire and require greater research investment. Only 2 of the 64 studies used interview data, and both also used observational and textual data. This is certainly influenced by researchers' orientations, such as a focus on publishing experience summarization, but it also indicates that the current level of investment in data acquisition in journal case studies needs improvement.

3.5 Analysis Style: Relatively Balanced Across Different Styles

The general analysis styles exhibited in case studies mainly include three types: quantitative analysis, qualitative analysis, and mixed analysis. Quantitative and qualitative analyses are the most common research methods, and people's understanding of them is relatively clear and uncontroversial. Regarding mixed analysis methods, people have different understandings. Some believe mixed methods are a research approach that combines qualitative and quantitative methods in data processing ¹¹; some believe mixed methods are a comprehensive cognitive approach that integrates multiple perspectives for viewing society; and others believe mixed research methods are a comprehensive usage that emphasizes mixing theories and methods, and mixing quantitative and qualitative methods in data collection and analysis ¹². This paper focuses on the analysis style presented by a study, which is closer to the first usage—that is, it mainly concerns the comprehensive use of quantitative and qualitative methods in data collection and analysis.

The characteristics of data used in journal research determine the diversification of analysis styles. Data on journal development include both qualitative data about specific publishing work in the process (such as specific measures, decision-making processes, and institutional construction) and quantitative data examining publishing effectiveness (such as impact factor, number of published articles, and article topics). Therefore, the collection and analysis of these data exhibit different characteristics. It should be noted that in journal case studies,

the distinction between qualitative, quantitative, and mixed analysis styles is not absolute, as most studies comprehensively use multiple methods. However, generally speaking, a study still has a particularly distinctive analytical feature.

The analysis finds that existing journal case studies exhibit diversified analysis styles, with qualitative, quantitative, and mixed styles all appearing. Broadly speaking, mixed research (32 studies) and qualitative research (28 studies) are more common, while quantitative research is less common (4 studies). This result is closely related to data sources: all 32 mixed-style studies used both observational and textual data; all 28 qualitative-style studies used observational data, but only 8 of them also used textual data; all 4 quantitative studies used quantitative data, but only 1 of them also used a small amount of qualitative data.

We know that many studies in the journal research field use textual data for quantitative analysis. However, mixed-style and qualitative-style studies occupy the vast majority in case studies, indicating a direct relationship between research topics and analysis styles. Most journal case studies focus on the overall development of journals and require richer data, so the analysis styles are mostly mixed and qualitative. Studies focusing on specific areas of journal development (such as changes in impact factor) rely more on textual data and thus are primarily quantitative. Meanwhile, qualitative and quantitative styles are also related to the research angles they focus on. For example, studies that particularly emphasize influence analysis pay more attention to various quantitative indicators and thus tend to use quantitative research; studies that particularly focus on publishing concepts and measures in journal development tend to be qualitative; and studies that comprehensively examine overall journal development tend to exhibit mixed analysis styles.

4. Conclusions and Recommendations

Based on the above analysis, to continuously improve the professionalism of case analysis method application in academic journal research and better fulfill the unique function of journal research in serving publishing practice, this paper proposes the following recommendations:

4.1 Emphasize Theoretical Construction and Strengthen Explanatory Research

A possible explanation for the above characteristics of recent journal case studies is that they are mostly practice-oriented rather than theory-oriented—that is, they mostly aim to support concrete publishing practice rather than construct new theories or verify or falsify existing theories. This reasonably explains specific characteristics such as the predominance of descriptive research, extreme and participatory cases, single-case studies, observational data, and mixed methods. Of course, the two orientations are not contradictory but complementary, jointly serving the continuous improvement of concrete publishing

practice. Running journals well certainly requires summarizing and learning from various concrete experiences, but it also needs theoretical guidance. Therefore, theory-oriented case studies have special value: like practice-oriented case studies, they help concrete publishing practice, but unlike practice-oriented case studies, they guide publishing practice more broadly and deeply, and their theoretical pursuit also enhances the overall academic level of case studies. Relatedly, in-depth comparative research on a small number of cases helps generate and test theoretical hypotheses, thereby facilitating theoretical construction. Therefore, while conducting sufficient analysis of individual journal cases, future research should strengthen comparative studies among a small number of cases¹³. Meanwhile, although case studies have unique advantages in proposing theoretical hypotheses, hypothesis testing still relies on cross-case research. Thus, future case studies should also strengthen the absorption and learning from cross-case research findings to achieve organic integration between case studies and cross-case research.

4.2 Prioritize Interview Data and Broaden Data Acquisition Channels

Regarding data acquisition channels, current journal case studies mostly use observational and textual data, with interview data being extremely rare. As mentioned earlier, this is related to researchers' orientations and the convenience of data acquisition. Both theory-oriented and practice-oriented research require more diversified data. For theory-oriented case studies, future research should pay more attention to collecting and using interview data while making full use of observational and textual data. Using interview data can not only better meet the needs of research topics but also help develop new research topics, because only by extensively and deeply understanding the publishing measures and specific effectiveness of more journals can more worthwhile research questions be discovered—something difficult to achieve through merely observing researchers' own publishing work or collecting quantitative data from databases. Convenience in acquisition is a feature of observational and textual data, but excessive consideration of data acquisition convenience may not be conducive to selecting appropriate cases or conducting in-depth analysis of relevant cases. Therefore, researchers need to step out of their studies and their own journals to obtain richer and more diversified data by designing reasonable and efficient interview outlines and questionnaires—this is work that needs strengthening in the future.

4.3 Emphasize Experimental Methods and Improve Analytical Sophistication

Current journal case studies employ relatively diverse data analysis methods, with qualitative, quantitative, and mixed analytical styles all being widely used. Related to the research orientation of emphasizing experience sharing and phenomenon description, existing analyses focus mainly on simple description, with relatively little correlation analysis and even less causal analysis. Therefore, we

recommend continuously improving data analysis sophistication on the basis of broadening data collection channels and using diversified data. Very few existing case studies consciously use experimental research methods, yet experimental research methods are the most effective way to evaluate the actual effects of certain interventions¹⁴. Future research could focus on several fundamental issues in academic journal development, design diversified data collection and analysis plans according to specific research objectives, and especially actively explore the use of experimental methods to better achieve theoretical construction and more scientifically promote publishing experience. Current journal case researchers are mostly professional publishing staff, which provides many conveniences for related research (especially regarding data acquisition), but also has certain limitations—for instance, the awareness and skill level of using experimental methods need improvement. Future research could consider involving more professional researchers from communication science, editing science, sociology, and other disciplines to conduct or collaborate on journal case studies; meanwhile, professional publishing staff participating as researchers in academic studies also need to strengthen their learning to continuously improve their research competence.

Finally, it should be noted that this paper focuses on methodological examination of case studies in the academic journal research field. Due to space limitations and analytical feasibility, this study only focused on journal cases, paying less attention to institutional cases, column cases, editorial board cases, etc. However, in concrete publishing practice, these aspects are all important components of journal development, so analyzing related case studies on these aspects is equally important. Future research could incorporate case studies at more levels and of more types into the examination scope. Meanwhile, the cases selected for this study mainly came from representative domestic journals in the academic journal research field, and related data were primarily textual data obtained through online retrieval. Future data sources could be broadened to include more domestic and some foreign journals, and data collection methods could be expanded from purely textual data to include questionnaires and interviews.

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HU Yan: Proposed the topic, developed the framework, and wrote the paper.

WANG Sen: Collected data and revised the paper.

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