



A Statistical Analysis of Multiple-Response Survey Data on Academic Journal Publishing Motivations

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Abstract

This study investigates authors' motivation to publish in academic journals using descriptive analysis of multiple-response survey data. A cross-sectional survey design was employed, and data were collected from 456 academic authors using a validated 15-item structured questionnaire with a Cronbach's Alpha index of 0.82, containing a multiple-response item on publication motivation. The instrument elicited motivation factors organized into five conceptual domains: editorial and review quality; visibility, credibility, and indexing; content and scholarly value; accessibility and cost considerations; and capacity building and incentives. Data were analyzed using frequency counts, percentages, and multiple-response bar-chart visualization, with results interpreted at the domain level. The findings reveal that editorial and review quality constitutes the most influential motivation for publication, with high endorsement of editorial team competence, ethical compliance, transparent peer review, and effective communication. Visibility and credibility factors, particularly DOI availability and indexing in reputable databases, also strongly motivated authors, though to a lesser extent than editorial quality. Content quality and scholarly value exerted a moderate influence, while accessibility and cost considerations were secondary, with greater emphasis on transparency than on publication fees. Capacity-building and incentive-related factors were the least influential motivations. The results demonstrate that authors' publication decisions are predominantly quality- and credibility-driven rather than incentive-based. The study contributes to the literature by providing a domain-based descriptive assessment of multiple-response survey data on publishing motivation and offers practical insights for journal editors and publishers seeking to attract and retain high-quality scholarly submissions.

Keywords: Authors' Motivation, Academic Publishing, Multiple-Response Data, Descriptive Statistics, Journal Quality

Introduction

The production and dissemination of scholarly knowledge depend fundamentally on academic journals. Decisions by researchers to submit to, review for, or edit journals are shaped by a complex mix of intrinsic and extrinsic motivations intellectual curiosity, career advancement, recognition, institutional incentives, financial considerations, and disciplinary norms. Understanding these motivations is important for editors, publishers, research-policy makers, and institutions because motivation affects what gets published, peer-review quality, reviewer availability, editorial diversity, and broader research incentives that shape the direction of scholarship.

Surveys of researchers are the most direct way to capture motivations, but modern survey designs often collect multiple-response data: respondents select several reasons (e.g., "career advancement," "open access visibility," "discipline prestige") from a list, rather than a single best choice. Multiple-response formats more closely match how people actually think and act, but they create statistical challenges. Responses are inherently multivariate and dependent (the selection of one motive changes the probability of selecting others), and conventional single-response analysis methods (e.g., simple proportions or independent logistic regressions) can lead to biased inferences or miss interactions among motivations. Properly modeling multiple-response survey data requires methods that account for co-occurrence, variable selection overlap, and complex sampling designs. There is a growing methodological literature on analyzing multiple-response and multi-label survey data techniques include contingency-table extensions, multivariate logistic and probit models, latent class analysis, and modern machine-

learning based multi-label classifiers. However, many applied studies of academic publishing motivations still report only univariate summaries (percent selecting each reason) or bivariate cross-tabs, leaving questions about the joint structure of motivations unanswered. This gap limits our ability to (i) identify common motivation profiles across career stages and disciplines, (ii) quantify trade-offs (e.g., prestige vs. open-access visibility), and (iii) design policies or editorial practices that respond to the real, multi-faceted incentives driving researcher behavior.

This study addresses that gap by applying a rigorous statistical framework tailored to multiple-response survey data collected on academic journal publishing motivations. The analysis will (1) characterize the marginal and joint distribution of motivations, (2) identify latent motivation profiles and their predictors (such as career stage, discipline, geographic region, or institutional type), and (3) quantify dependence patterns among motives using multivariate models that respect the discrete, correlated nature of selections. Emphasis will be placed on transparent estimation and interpretation reporting measures such as co-selection odds, latent-class probabilities, and model-based adjusted comparisons so findings are actionable for stakeholders.

Empirical studies on academic journal publishing motivations consistently show that researchers' decisions are driven by multiple, overlapping factors rather than a single dominant incentive. Early survey-based studies found that journal prestige, impact factor, and perceived quality are among the strongest motivations for manuscript submission, particularly for early- and mid-career researchers whose promotion and tenure depend heavily on publication metrics (Mabe & Amin, 2001; Rowlands & Nicholas, 2006). Concerns about unethical publishing practices have further reinforced the importance of editorial quality. Cobey et al. (2019) empirically showed that authors actively avoid journals perceived to lack credible editorial oversight, while Beall (2015) documented how weak peer review and unethical editorial practices undermine author trust, particularly in developing research contexts. At the same time, intrinsic motivations such as contributing to knowledge and advancing one's discipline have been shown to coexist with extrinsic career-related incentives (Ware, 2008). For many African researchers, publishing is also viewed as a means of increasing the visibility of locally relevant research that addresses regional social, economic, and policy challenges (Onyancha & Maluleka, 2011). These intrinsic drivers often operate alongside extrinsic pressures linked to promotion guidelines set by bodies such as the National Universities Commission (NUC) in Nigeria. Mabe and Amin (2001), analyzing survey and bibliometric data, showed that indexing status and citation visibility significantly influence journal attractiveness. Falagas et al. (2008) empirically demonstrated that database coverage is strongly associated with perceived journal credibility and expected citation impact. Ware and Mabe (2015) further confirmed, using international survey data, that authors prioritize formal recognition mechanisms such as indexing and citation tracking over informal popularity measures. In the African context, Boshoff (2018) provided empirical evidence that visibility and international indexing are critical for authors seeking global recognition of locally produced research. Harley et al. (2010) found that authors assume scholarly relevance and originality as given and instead evaluate journals more strongly based on validation mechanisms. Ware (2008) similarly reported that thematic alignment and contribution to knowledge, though valued, are secondary to peer review rigor in journal selection decisions. Rowlands et al. (2007), using survey-based empirical analysis, showed that authors rarely choose journals solely on content focus without considering editorial and reputational indicators.

The emergence of open access publishing has further influenced publishing motivations within the African context. Empirical findings suggest that Nigerian and other African scholars value open access journals for their wider readership, accessibility, and potential citation advantages, especially given subscription barriers faced by many institutions (Nwagwu & Ahmed, 2009; Boshoff, 2018). Nwagwu and Ahmed (2009), studying African scholars through survey data, found that open access journals are valued for visibility and reach rather than for reduced publication costs. Solomon and Björk (2012) empirically demonstrated that authors tolerate article processing charges when journals maintain high editorial standards. Björk and Solomon (2014), using comparative publishing data, showed that transparent access policies and editorial workflows significantly enhance journal legitimacy and author trust. However, concerns about article processing charges and the credibility of some open access outlets also shape authors' decisions, leading researchers to simultaneously prioritize visibility, affordability, and journal reputation. From a methodological perspective, most empirical works analyze survey responses using descriptive statistics or simple cross-tabulations, reporting the percentage of respondents selecting each motivation (Ware & Mabe, 2015). Mabe (2003), through empirical analysis of author behavior, found that career advancement and journal reputation far outweigh incentive-based considerations. Ware and Mabe (2015) further confirmed that authors regard developmental benefits as supplementary rather than decisive. While informative, such approaches ignore dependence among responses. A smaller body of studies has adopted more advanced techniques. For instance, latent class analysis has been used to identify distinct author motivation profiles, such as "career-driven," "visibility-oriented," and "mission-

oriented” groups. Multivariate logistic and probit models have also been applied to account for correlated selection of motivations, showing significant interdependence between factors like journal reputation and institutional reward systems (Harley et al., 2010).

The empirical literature confirms that academic publishing motivations are multidimensional and interrelated, yet statistically underexplored using appropriate multiple-response methods. This gap underscores the need for rigorous statistical analysis that explicitly models joint response patterns, providing a stronger empirical basis for editorial policy, research evaluation, and scholarly communication reforms.

Statement of the Problem

Academic journals play a central role in the production and dissemination of scholarly knowledge, yet attracting high-quality submissions remains a persistent challenge for many journals, particularly in developing research contexts. Authors’ decisions to publish are influenced by multiple, overlapping factors such as editorial standards, visibility, cost considerations, and institutional incentives. Despite the importance of understanding these motivations, empirical evidence on how authors prioritize these factors remains limited and methodologically underdeveloped.

Most existing studies on authors’ publication motivations rely on single-response survey formats or simple descriptive summaries that treat each motivation in isolation. Such approaches fail to reflect the reality that authors often select multiple reasons simultaneously when deciding where to publish. As a result, the interrelated nature of publication motivations is frequently overlooked, leading to incomplete or potentially misleading interpretations that offer limited practical value for journal editors, publishers, and policy makers. Furthermore, within many scholarly publishing environments especially in emerging academic systems journals invest resources in incentives such as training programmes, sponsorships, or reduced publication fees without clear empirical evidence of their relative importance to authors. At the same time, critical quality-related factors such as editorial competence, ethical standards, and peer-review transparency may not receive adequate emphasis or systematic evaluation from the authors’ perspective.

The problem, therefore, lies in the lack of applied, domain-based empirical studies that use appropriate multiple-response survey analysis to clearly identify and compare the relative influence of different motivational factors on authors’ decisions to publish in academic journals. Addressing this gap is essential for evidence-based editorial policy formulation, efficient allocation of journal resources, and the development of publishing practices that align with authors’ actual priorities.

Aim and Objectives of the Study

The aim of this study is to examine authors’ motivation to publish in academic journals using descriptive analysis of multiple-response survey data. The specific objectives are to:

1. assess the influence of editorial and review quality factors on authors’ motivation to publish in academic journals.
2. examine the role of visibility, credibility, and indexing attributes in shaping authors’ publication decisions.
3. determine the extent to which content quality and scholarly value motivate authors to publish in academic journals.
4. evaluate the influence of accessibility and cost-related considerations on authors’ motivation to publish.
5. analyze the contribution of capacity-building and incentive-related factors to authors’ decisions to publish in academic journals.

Methods and Materials

The study adopted a cross-sectional descriptive survey design, appropriate for examining patterns in authors’ motivations using applied statistical techniques. The target population comprised academic authors who had published in or interacted with the journal. A total of 456 respondents were included in the study using a non-probability voluntary response sampling technique. Data were collected using a validated 15-item structured questionnaire with a Cronbach's Alpha index of 0.82, containing a multiple-response item on publication motivation. Respondents were allowed to select all applicable options from a list of predefined motivation indicators. The instrument was developed to cover five conceptual domains (Editorial and Review Quality; Visibility, Credibility, and Indexing; Content and Scholarly Value; Accessibility and Cost Considerations, & Capacity Building and Incentives). Content validity was ensured through expert review and domain mapping. The questionnaire was administered electronically. Responses were automatically recorded and exported for analysis.

Data were analyzed using descriptive statistical methods, including: Frequency counts, percentages and multiple-response bar chart visualization. Results were further grouped and interpreted by motivation domain to enhance analytical clarity. Participation was voluntary, and respondent anonymity was maintained. No personally identifiable information was collected. The study employed descriptive statistical techniques to analyze multiple-response categorical survey data, with results interpreted across predefined motivation domains.

Results

Table 1: Percentage responses on editorial team quality, rigorous peer review, ethical guidelines, and effective communication quality (N = 456; multiple responses permitted).

SN	Variables	N	Percentages (%)
1	Editorial Team Quality: The expertise and reputation of the editorial team	407	89.25
9	Effective Communication Quality: Clear and timely communication with authors	358	78.51
11	Ethical Guidelines: Strict adherence to ethics, including plagiarism checks and conflict-of-interest disclosures.	375	82.24
12	Rigorous Peer Review: Ensures research is thoroughly vetted for methodological rigor, originality, and significance	342	75.00

Table 1 shows that editorial and review quality emerged as the strongest motivational domain. The consistently high percentages indicate that authors place primary importance on editorial competence, ethical compliance, and transparent review processes, confirming this domain as the dominant driver of publication decisions.

Table 2: Percentage responses on DOI availability, indexing in reputable databases, rising journal popularity, and journal website quality (N = 456; multiple responses permitted)

SN	Variables	N	Percentages (%)
5	Digital Object Identifier (DOI): Permanent and citable publication link	358	78.51
7	Rising Journal Popularity: Growing reputation and readership	253	55.48
10	Indexing in Reputable Databases: Visibility in Google Scholar, ResearchGate, etc	334	73.25
14	Journal Website Quality: User-friendly and informative online presence	285	62.50

Table 2 shows that visibility and credibility factors were highly influential, particularly DOI availability and indexing status. This suggests that authors value discoverability, citation potential, and academic recognition, though these considerations remain secondary to editorial quality.

Table 3: Percentage responses on high-quality content focus, and research collaboration opportunities (N = 456; multiple responses permitted)

SN	Variables	N	Percentages(%)
2	High-Quality Content: Focus on clarity, coherence, and technical accuracy in published research	350	76.75
6	Research Collaboration Opportunities: Networking and partnership possibilities	277	60.75

Table 3 shows that content-related motivations were moderately strong, indicating that authors consider the journal's intellectual focus and opportunities for scholarly interaction important, but not as decisive as editorial governance or ethical practices.

Table 4: Percentage responses on transparency and accessibility, accessibility and inclusivity, moderate processing fees (N = 456; multiple responses permitted)

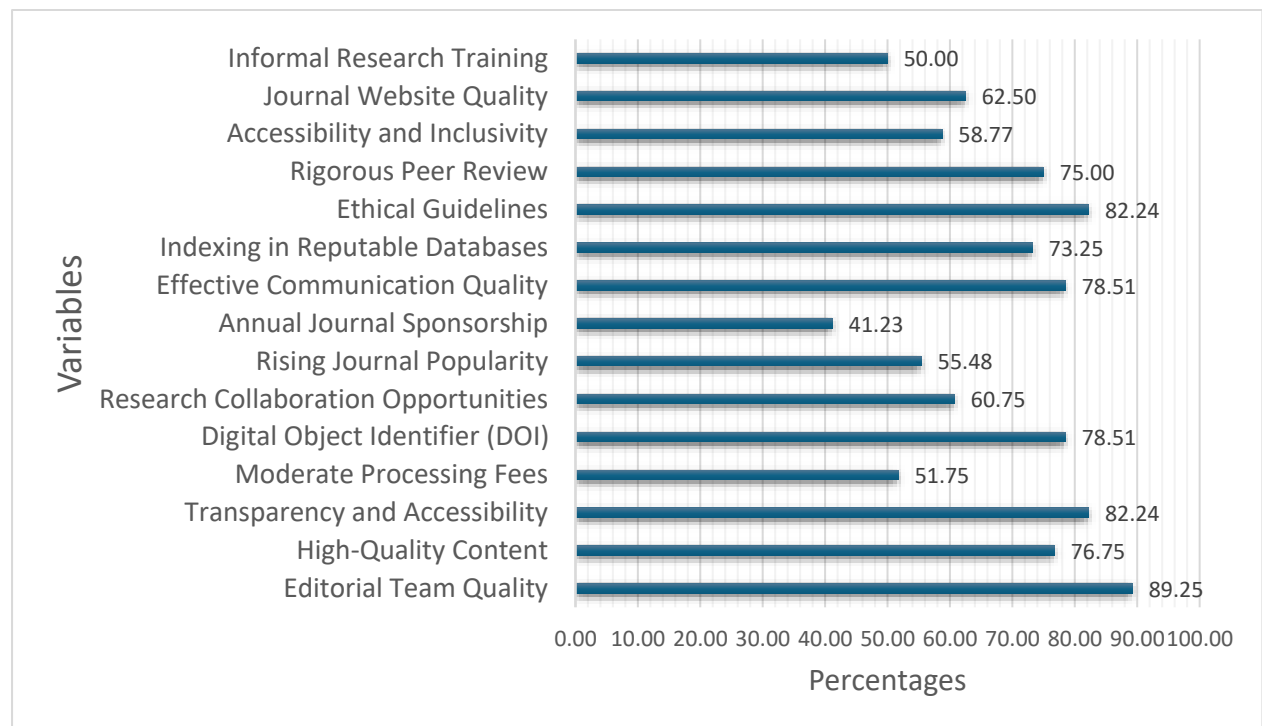
SN	Variables	N	Percentages (%)
3	Transparency and Accessibility: Clear submission processes and visible archives	375	82.24
4	Moderate Processing Fees: Affordable costs for authors	236	51.75
13	Accessibility and Inclusivity: Commitment to making research available and understandable to diverse audiences	268	58.77

Table 4 shows that while transparency of access is highly valued, cost-related factors were relatively less influential. This indicates that authors are more concerned with process clarity and openness than with fee reduction.

Table 5: Percentage responses on informal research training, annual journal sponsorship

SN	Variables	N	Percentages (%)
8	Annual Journal Sponsorship: Yearly funding and support for publication	188	41.23
15	Informal Research Training: Opportunities for skill development and mentorship	228	50.00

Table 5 shows that capacity-building and incentive-related factors were the least influential domain, suggesting that such initiatives, while beneficial, do not significantly determine authors' decisions to publish.

**Fig. 1: Percentage description of the responses over motivation to publish in academic journals.**

Discussion

This study examined authors' motivation to publish in academic journals across five conceptual domains using descriptive analysis of multiple-response survey data. The findings reveal clear differences in the relative influence of these domains, with strong emphasis on editorial quality, ethical standards, and publication credibility.

Editorial and Review Quality

Editorial and review quality emerged as the most influential motivational domain. High endorsement of editorial team quality, ethical guidelines, effective communication, and rigorous peer review indicates that authors place paramount importance on trust, fairness, and professionalism in the publication process. From an applied statistics perspective, the consistently high response proportions across all indicators in this domain suggest low dispersion and strong central tendency, reinforcing the stability of this motivation. This finding aligns with established scholarly publishing norms, where editorial integrity is a critical determinant of journal reputation and author confidence. It is also consistent with existing literature, which identifies peer review integrity and editorial professionalism as core determinants of journal reputation and author confidence (Ware, 2008; Rowlands & Nicholas, 2006). Previous empirical studies similarly report that authors prioritize transparent editorial practices and ethical governance as safeguards against bias and malpractice, particularly in environments where predatory publishing remains a concern (Beall, 2015; Cobey et al., 2019). The prominence of this domain aligns with established norms in scholarly communication, where editorial credibility functions as a signal of quality assurance and academic legitimacy (Harley et al., 2010).

Visibility, Credibility, and Indexing

The second most influential domain relates to visibility and credibility, particularly DOI availability and indexing in reputable databases. These results highlight authors' concern for research discoverability, citation tracking, and academic recognition. Although slightly lower than editorial factors, the high response rates indicate that visibility-related attributes are essential for sustaining author interest. The comparatively lower emphasis on journal popularity suggests that authors value formal recognition mechanisms more than reputational perception alone. This result aligns with prior studies showing that indexing status and citation traceability significantly influence journal selection, especially among researchers operating within performance-based evaluation systems (Mabe & Amin, 2001; Falagas et al., 2008). This supports earlier evidence that researchers distinguish between symbolic prestige and measurable academic visibility when making publication decisions (Ware & Mabe, 2015; Boshoff, 2018).

Content and Scholarly Value

Motivation linked to content quality and scholarly value was moderately strong. Authors showed substantial interest in publishing within journals that emphasize high-quality content and offer opportunities for research collaboration. However, these factors did not outweigh structural quality indicators such as peer review and ethics. This suggests that authors assume a baseline level of scholarly content and prioritize process quality over thematic orientation when making publication decisions. This finding is in tandem with the literature, which indicates that while thematic fit and intellectual contribution are important, they are often taken for granted relative to quality assurance mechanisms (Harley et al., 2010; Ware, 2008). Empirical studies have similarly observed that authors expect journals to maintain scholarly standards by default and therefore differentiate outlets more strongly based on procedural integrity than on content orientation alone (Rowlands et al., 2007).

Accessibility and Cost Considerations

Transparency and accessibility were strongly endorsed, whereas processing fees and inclusivity received moderate support. This indicates that authors value clarity, openness, and ease of access more than cost reduction. The findings imply that affordability alone is insufficient to attract submissions without accompanying editorial credibility. From a practical standpoint, this supports the notion that transparent workflows and access policies enhance perceived journal legitimacy. These results corroborate previous research showing that while open access is valued for its dissemination advantages, authors remain cautious about low-cost or fee-free journals that lack clear editorial standards (Nwagwu & Ahmed, 2009; Solomon & Björk, 2012). The emphasis on transparency supports the view that clearly articulated access policies and review procedures enhance perceived journal legitimacy and trustworthiness (Björk & Solomon, 2014).

Capacity Building and Incentives

Capacity-building and incentive-related factors were the least influential domain. Informal research training and sponsorship opportunities attracted lower response rates, suggesting that such benefits are considered supplementary rather than decisive. This may reflect authors' preference for journals that focus on dissemination and validation of research rather than developmental or financial incentives. The domain-based analysis demonstrates that authors' motivation is quality-centered and credibility-driven, with secondary consideration given to visibility and minimal reliance on incentives. This finding aligns with earlier studies indicating that material incentives and auxiliary benefits play a limited role compared to reputational and quality-based

considerations in scholarly publishing (Mabe, 2003; Ware & Mabe, 2015). Overall, the domain-based analysis reinforces the conclusion that authors' publishing motivations are predominantly quality-centered and credibility-driven, with visibility as a secondary consideration and minimal reliance on incentive-based attractions.

Conclusion

The study concludes that authors' motivation to publish in academic journals is primarily shaped by editorial competence, ethical compliance, and transparent peer-review processes. Descriptive analysis of multiple-response data revealed that domains related to editorial and review quality consistently outranked visibility, content orientation, cost considerations, and incentive-based factors. Visibility mechanisms such as DOI assignment and indexing were found to be important but function largely as supporting enablers of scholarly impact rather than primary motivators. Content quality and collaboration opportunities contribute meaningfully to motivation but are insufficient in isolation. Cost-related and incentive-based factors exert comparatively limited influence, indicating that authors are willing to engage with journals that demonstrate credibility, even in the absence of strong financial inducements. From an applied statistics perspective, the stability of response patterns across domains reinforces the reliability of descriptive methods for examining author motivation in non-experimental survey settings. The findings underscore the importance of maintaining rigorous editorial standards as the cornerstone of journal sustainability and author engagement. Journals seeking to attract and retain high-quality submissions should prioritize editorial integrity, ethical transparency, and effective communication, while treating incentives and training initiatives as complementary rather than central strategies.

Recommendations

Based on these findings, the following recommendations are proposed for the journal:

1. Continued investment in the editorial team, ethical guidelines, and peer-review transparency should remain a priority, as these factors are most influential in attracting submissions.
2. Improving communication with authors regarding submission, review, and publication processes will further strengthen the journal's appeal.
3. While financial incentives were less important, ensuring the journal's visibility through **indexing in reputable databases** and offering **DOI services** will increase its attractiveness to authors.
4. While processing fees were not a major deterrent, maintaining **affordability** without compromising quality should be considered in future strategies.
5. Offering **research collaboration opportunities** or **training programs** could add value, but should not overshadow the journal's commitment to editorial excellence.

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