

College of Computing (COLCOM) Lecture Series McPherson University

Excellence in Research Methodology and Academic Publishing

Academic/Journal Publishing: A Comprehensive Guide for Scholars

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Formal Definition - Academic Publishing

Subfield of publishing that distributes academic research and scholarship, primarily through academic journal articles, books, or theses.

It serves as the primary mechanism for disseminating scholarly knowledge, establishing intellectual priority, and driving technical innovation.

Objectives of Academic Publishing

- **Knowledge Dissemination:** Sharing novel algorithms, software architectures, empirical evaluations, and theoretical insights with the global scientific community.
- **Peer Validation:** Obtaining independent verification of research correctness, technical soundness, and originality from domain experts.
- **Academic & Professional Advancement:** Serving as the benchmark for faculty promotions, tenure tracks, postgraduate completions, and grant eligibility.
- **Archival Preservation:** Securing a permanent, citeable record of scientific progress registered under Digital Object Identifiers (DOIs).

Key Stakeholders in Publishing

- **Authors:** Researchers and scholars who conceive, execute, and write up research contributions.
- **Peer Reviewers:** Subject matter experts who evaluate manuscripts voluntarily or by invitation for rigor and validity.
- **Editors (Editor-in-Chief, Associate Editors):** Academic leaders who oversee submission screening, reviewer assignments, and final publication decisions.
- **Publishers:** Entities managing infrastructure, formatting, indexing, digital archiving, and copyright frameworks (e.g., IEEE, ACM, Springer, Elsevier, Wiley).

Anatomy of a Journal Paper

A well-structured research paper in computing follows the refined IMRaD format.

+	-----+	
	TITLE	
	(Specific, Concise, Descriptive, Keyword-Rich)	
+	-----+	
	ABSTRACT	
	(Context - Problem - Proposed Solution - Key Findings)	
+	-----+	
	1. INTRODUCTION	
	- Background & Motivation	
	- Problem Statement & Research Questions (RQs)	
	- Summary of Specific Contributions	
+	-----+	
	2. RELATED WORK & TAXONOMY	
	- Critical Review of Existing Literature	
	- Comparative Matrix / Research Gap Identification	
+	-----+	
	3. PROPOSED SYSTEM / METHODOLOGY	
	- Mathematical Formulations & Formal Notations	
	- System Architecture & Algorithmic Pseudo-code	
+	-----+	
	4. EXPERIMENTAL SETUP & EVALUATION	
	- Dataset Description & Preprocessing Pipeline	
	- Baseline Models & Benchmark Metrics	
	- Quantitative & Qualitative Results	
+	-----+	
	5. DISCUSSION & THREATS TO VALIDITY	
	- Interpretation of Results & Ablation Analysis	
	- Internal, External, and Construct Validity Threats	
+	-----+	
	6. CONCLUSION & FUTURE WORK	
+	-----+	

Five Questions to Ask of Any Journal

- **Fit:** Does its recent issues (last 2–3 years) publish papers like yours in topic, method and scale?
- **Indexing:** Is it indexed in Scopus and/or Web of Science (or PubMed for health topics, DOAJ for open access)? Verify on the indexer's own site, not the journal's claim.
- **Process:** What are the typical time to first decision and acceptance rate? Are reviews genuinely peer reviewed?
- **Cost and access:** Is it subscription, open access with an APC, or diamond (free to read and publish)?
- **Standing:** What is its quartile (Q1–Q4) in its subject category on Scimago (SJR) or Journal Citation Reports? Q1–Q2 is a good target once you have a strong result.

The Four Quartiles Explained...

- **Q1 (Top 25%):** Represents the top 25% of journals in a specific subject category. High prestige, maximum visibility, rigorous peer-review processes, low acceptance rates (often under 15–20%), and high citation impact. Groundbreaking, high-impact research, career promotion, and major grant applications.
- **Q2 (26% to 50%):** Represents the second tier, spanning from the 26th to the 50th percentile. Above-average performance, solid academic credibility, and respectable citation metrics. Solid empirical studies and established researchers looking to build a strong publication record.
- **Q3 (51% to 75%):** Represents the third tier, spanning from the 51st to the 75th percentile. Moderate citation impact, often more specialized or regional in focus. Specialized studies, regional research, or researchers gaining foundational publishing experience.

The Four Quartiles Explained... Contd...

- **Q4 (Bottom 76% to 100%):** Represents the lowest quartile, making up the bottom 25% of journals in the category. Lower citation impact, shorter review timeframes, and more accessible editorial boards.

Note: A Q4 ranking does not mean a journal is predatory or fake; it is still legitimately indexed and peer-reviewed. Preliminary work, early-career researchers, or postgraduate students publishing their first papers.

Check a journal's true quartile here...

<https://www.scimagojr.com/>

<https://mjl.clarivate.com/>

Primary Formats of Academic Publishing



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Journal

Articles are peer-reviewed channel for rapid original research dissemination globally.



Edited

Books are commissioned thematic chapters ideal for doctoral synthesis and specialized topics.



Book

Reviews are earlier scholarly contributions offering early career visibility and networking.

The Editor-Author Nexus



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The Editor's Responsibility

Ensures academic integrity, manages referee selection, and guides manuscripts through review.



The Author's Objective

Transforms findings into clear, rigorous publications and navigates peer critiques constructively.



Demystifying Academic Publishing

Practice & Persistence: Publishing is not reserved for seasoned professors. It is a structured skill acquired by students through iterative writing, reviewer engagement, and methodical discipline.

Seminar Paper vs. Research Paper



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Seminar Paper

Summarizes existing literature

- Descriptive overview
- Written for course grading

Research Paper

Generates original data/analysis

- Analytical & critical focus
- Targets global scientific audience

Formulating the Core Research Question



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Identifying the

Gap point explicitly what existing literature has missed or failed to resolve.



Scope

Control the question is neither too broad for an article nor too narrow for significance.



Peer

Vetting question in seminars before writing to confirm novelty and avoid duplication.

Crafting Abstracts and Titles



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The Abstract (150–400

Words) the promotional gateway and index anchor. Must state Problem, Purpose, Methodology, Findings, and Value.

Title

Optimization "Title of the abstract."
Balance precise domain keywords with provocative, memorable phrasing.

Language Integrity & Pre-Submission Polish



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Desk Rejection

Risk Submitting manuscripts in poor English triggers immediate rejection before peer review.



Spelling

Conventions 100% consistency between UK English (organisation, litre) and US English (organization, liter).



Acknowledgement

Essential Formally thank colleagues and language checkers to establish transparency and rigor.

Targeting the Right Journal

Tailored Writing

Strategy Writing directly for a specific journal ensures exact alignment with scope and audience, saving editing time.

Multidisciplinary

Flexibility Offer editorial leeway for interdisciplinary topics. Consult supervisors for respected outlets.

Open Access & Article Processing Charges (APCs)



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GOLD OPEN ACCESS

Immediate Global Access

Published under Creative Commons licenses upon APC payment, often covered by university grants.

GREEN OPEN ACCESS

Repository Archiving

Free self-archiving of post-review manuscripts, subject to 6–24 month publisher embargo periods.

Understanding Journal Metrics And Rankings



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Impact Factor

(JIF) Measures average citations over 2 years. Useful baseline, but prone to self-citation distortion.

h-Index &

Scopus Measures overall journal productivity and citation durability across scientific databases.

National

Lists British and European publication forums rank journals (Levels 1–3) based on expert panels.

Identifying & Avoiding Predatory Publishers



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Fake Peer Review

Promises guaranteed acceptance in under 14 days solely to extract rapid publication fees.



Deceptive Branding

Mimic prestigious journal titles and lists fake editorial boards without scholar consent.



Unsolicited, flattering emails

Inviting you to submit or join an editorial board



Very broad scope

e.g. "engineering, technology, medicine and social sciences" in one journal

Verification

Cross-check journals against DOAJ, Web of Science, and "Think. Check. Submit."



Claimed indexing or impact factor

you cannot verify on Scopus, Web of Science or DOAJ; invented metrics such as "Global Impact Factor"



Hidden Fees

Unannounced after acceptance

Submission Platforms & Formatting Strictness



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Online Portal

Workflow like ScholarOne and Editorial Manager require separate anonymized texts and figure files.

Instructions for

Contributors on word limits or layout rules triggers rejection. Use Zotero/EndNote to avoid errors.

The Single Submission Rule & Ethics



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Multiple Submissions

~~Submitting to~~ Submitting to multiple journals simultaneously breaches academic ethics and risks author blacklisting.

Sequential Submission

~~Submit to~~ Submit to one journal at a time. Integrate reviewer feedback to improve chances at the next outlet.

Cover Letters & Financial Disclosures



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Editorial Cover

Better trust with the Editor. Summarizes significance, novelty, and confirms the manuscript is original.

Funder & COI

Disclosures reporting of grant numbers and conflicts of interest prevents ethical investigations.

Peer Review Models



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Single-Blind

Reviewer identities remain hidden; author identities are visible to referees.

Double-Blind

Both author and reviewer identities are hidden to minimize bias and institutional prestige effects.

Open Peer Review

Reviewer reports and names are published alongside the article for maximum transparency.

Understanding & Navigating Rejections



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Desk Rejection

(Immediate)

Occurs before external review due to scope mismatch or formatting flaws. Allows quick redirection.

Post-Review

Rejection

Occurs after evaluation due to flaws or weak data. Contains referee reports essential for rebuilding.

Understanding Decisions: Major vs Minor Revisions



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MAJOR REVISIONS

Substantial Re-

Analysis involves theoretical reshaping or additional data. Revised paper returns to referees for a second round.

MINOR REVISIONS

Textual

Refinements include citations or citation updates. Evaluated and approved directly by the journal Editor.

The Point-by-Point Response Matrix



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Complete

Coverage address every single reviewer remark individually without skipping points.



Polite

Tone maintain a respectful tone even when disagreeing with erroneous reviewer comments.



Precise

Navigation include line numbers and page numbers showing manuscript modifications.

Formal Acceptance & Hand-off to Production



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The Acceptance

Decision by the Editor once all referee concerns are satisfied. Concludes academic evaluation.

Publisher

Hand-off to production teams, initiating copyediting, typesetting, DOI assignment, and proofing.



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All Issues Resolved, Authors' Work Ends and Publishing Begins

Copy-editing & Style Refinement



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Grammar & Flow

Optimization Copyeditors refine grammatical accuracy and sentence flow without altering research meaning.

House Style

Standardization Copyeditors apply spelling rules, and bibliographies with press guidelines before layout design.

Typesetting & Galley Proofs



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Typesetting

Layout converts raw text into PDF galley proofs matching journal typography, placing figures and tables.

Author

Proofreading must be completed within 48–72 hour deadlines. Restricted to correcting typographical errors.

Copyright Transfer & Rights



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Traditional Copyright

Transfer (CTA) transfers commercial copyright to publisher while retaining educational reuse rights.

Open Access License

(CC) Authors retain full copyright while granting publisher an exclusive publishing license under Creative Commons.

Publication Pipeline



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01

First View / Early View

Article goes live online prior to issue assignment.

02

DOI

Registration of digital identifier assigned for citation.

03

Indexing

Article fed to Web of Science, Scopus, & PubMed.



Let's Get Our Research Out There!!!

Academic publishing is an acquired craft. Build momentum through book reviews and commentaries, master journal guidelines, and embrace peer review as a constructive path to scholarly excellence.



THANKS FOR LISTENING