

Innovation, Discoverability, and Impact in Journal Publishing

Presented by The Canadian Association of Learned Journals

This proposal calls for investment in Canadian scholarly journals to assist them to move beyond the status quo by increasing their scholarly quality and reader effectiveness through innovation. It builds on the TriCouncil's open access policies and CFI-led support for the facilitation of journal publishing. The called-for investment in innovation is intended to incentivize journals to emphasize reader engagement not only through peer evaluation and author revision but also through curation and presentation by an expanded group of professionals with competencies in the digitally enabled amalgam of text, images, audio, and live links that make up the modern journal publishing environment. The proposal envisages strengthening the international "must consult" status of recognized Canadian journal titles and raising other Canadian journal titles to that status. The proposed investment is designed to radiate benefits through the community of researchers, research funders, Canadian universities and other research institutions, and the general public and to increase the recognition of Canada's contributions to global knowledge development.

Introduction: Maximizing Research Investment Impact through Journal Innovation

The social impact of Canada's vastly expanding research enterprise can be significantly enhanced by increasing the effectiveness of that part of the scholarly communications infrastructure represented by Canadian scholarly journals. Canada is in the enviable position of being able to transform its existing body of approximately 200 social science and humanities journals, that publish in the neighbourhood of 4,000 articles annually, and may already attract article views that approach 50 million, into technologically advanced, competitive, distinguished, journal publishing operations with exceptional discoverability by means of modest investment. Taking advantage of an expanding research enterprise, together with investments in journal support by SSHRC and infrastructure investment led by CFI, journal operations can be transformed and modernized by investment focused on innovation, discoverability and impact at the level of journals themselves. By expanding the cadre of journal-employed professionals; providing funds targeted at increasing audience share and reach; encouraging collaboration with manuscript processing software providers, indexers, visualizers, libraries as hosts of content, and usage analysts; and fostering interaction with cutting-edge research communications projects such as Implementing New Knowledge Environments (INKE) and its proposed offshoot, Networked Open Social Scholarship (NOSS), Canada can vastly increase its return on investment in research funding.

Transformation: The Key Contribution of Publishing

The main contribution of scholarly publishers is to increase the power of research by providing authors with access to publishers, peer reviewers, editors, and graphic designers, and, through the proposed fund, an expanded group of digital publishing professionals. On a daily basis, publishers may advise authors to engage with evidence-based policy considerations to bring a work into an established series with a substantial readership. Editors may help authors to bring forward ideas suggested by their research but not addressed explicitly and to adopt emerging practices such as structuring their abstracts and choosing keywords that will optimize the attention of search engines. With the advent of digital publishing, layout artists, web managers, and illustration professionals can redouble the impact of research through graphic design and supplementary non-

textual media. And increasingly, experience of the publishing team with content delivery for all devices can reveal ways of addressing targeted readers and can result in dramatic increases in engagement. Overall, and bearing in mind Kent Anderson's completely non-trivial "[96 Things that Publishers Do](#)," publishing is transformative rather than transmissive. The transformative contributions of publishers can be seen most readily in the publication programs of the World Bank, the OECD, IDRC and other NGOs such as Ithaka S+R, a partner organization to US-based omnibus journal repository, JSTOR. The investment these organizations make in their publishing process translates into extensive readership, numerous citations, the reputation of these agencies as authoritative and insightful sources, and overall, social change.

Capturing Crucial Innovation Opportunities for Canadian Scholarly Publishing

Canadian scholarly journals were early adopters of online publishing and submissions management technology. At times, they led their international counterparts. However, in general, Canadian journals are falling behind as powerful innovations proceed apace including, currently, the integration of sound, images and video; facilitating interactivity thereby encouraging researcher collaboration; implementing agile and device specific publishing models; creating metadata to optimize the attention of search engines; adopting persistent digital object identification practices with increasing granularity; encouraging inclusion within multiple citation indexes; utilizing production practices to ensure continuing accessibility; guarding against plagiarism; maintaining attribution ethics; and adhering to an ever-widening range of accepted standards. These ongoing changes combine with strategic and technology planning and collaborative international marketing to present an ever-more-enabling knowledge landscape in which only some of the strongest journals are now participating including those published by Canadian Science Publishing, the University of Toronto Press Journals, and certain journals affiliated with Érudit. Like the large international journal publishers, these publishers have trained professionals on staff who are expert at addressing the increasing complexity and sophistication of the online publishing environment.

Why is Canada falling behind? Predominant among the major factors is an editorially-oriented publishing model in which academic editors are seconded for a limited term from their teaching and research duties to serve as the head of operations. Often they assemble or inherit a small coterie of graduate students to manage manuscript processing as well as subscriptions and distribution, provide bookkeeping services, and, often as not, copy editing. Some work may be contracted out to professionals, most often those based in design. These limited-term editors, appointed in recognition of their content expertise, have no foundation in publishing technology and practice, and thus have little interest or ability to maximize publishing effectiveness. A second hindrance to Canadian journal adoption of emerging technology and practice is the level of market- and grant-based income available to the vast majority of Canadian journals. Often, at best, resources are sufficient only to survive from year to year. A third obstacle is the lack of accessible professional development for journal employees.

The basic dilemma is that in an attention-scarce ecosystem, it is increasingly difficult for good research to attract the attention it is due. Thus, increasingly, in seeking proper recognition for their research, both authors and journals contract with reputable international publishers to ensure global attention. In the main, in dealing with journals, those publishers double or even quadruple the subscription price while providing brand prestige partly through large journal holdings, high production values, and global marketing. These pricing practices of international publishers restrict affordable access to knowledge denying it in many cases to faculty and students of smaller institutions such as the universities in Canada's Atlantic region.

This proposal addresses this dilemma head on.

Modernizing Canadian Scholarly Journal Publishing

Taking into account a whole host of relevant variables including;

- the value of research in modern society;
- the recognized quality of Canadian research and researchers;
- the quantity of research generated in Canada; increasing Canadian investment in research;
- established federal and provincial policy and support for book and periodical publishing in Canada;
- ongoing SSHRC support for social science and humanities journals; the large proportion of Canadian SSH research articles that are written and published without benefit of research grants;
- the substantial transaction costs, political difficulties, and vulnerability to misuse of administering any program of article processing fees to enable authors to see their work published;
- CFI-led support for manuscript handling software and journal hosting by libraries;
- the increasing interest of libraries in hosting journals;
- TriCouncil open access policies;
- the value of innovation; known methods of brand development and growing audience share and reach;
- burgeoning research into journal usage, impact and discoverability; and, in general,
- a dynamic environment of journal publishing innovation;

CALJ proposes:

1. that Canada's research funders join with its post-secondary institutions to **establish a scholarly journal innovation fund** complementary to SSHRC's support, to be called the Journal Impact and Innovation Fund (JIIF);
2. that subject to review of content and potential impact of proposed projects that, at minimum, address competitive, innovation-oriented international editorial, presentational, and circulation and discoverability standards and practices, JIIF provide between **\$2 million to \$3 million annually**
 - a. to not-for-profit Canadian scholarly journals applying either as single titles or in collaboration with other titles or publishing partners to fund innovation of their operations; and
 - b. to CALJ, in collaboration with partners, to establish and maintain an extensive program of professional development sufficient to address the evolving needs of Canadian scholarly journals;
3. that in accepting support, scholarly journals commit to making the research they publish as **openly and publicly accessible** as possible in a timely manner and consistent with the policies of Canada's research funding agencies; and
4. that **an additional \$250,000** annually for five years be provided to fund a specific **Public Engagement Initiative** focusing on potentially high public-profile research in Canada and potentially, elsewhere. Such an effort would take into account such successful publications as *Nature* and *Science*, potentially exploit the journalistic efforts of universities to profile the work of the faculty, and capitalize on the efforts and practices of the popular and social media.

Appendix: CALJ Journal Impact and Innovation Fund Proposal

An Augmented Publishing Landscape of Increased Capacity and Competitiveness

Nothing but innovation and effort stand in the way of Canada increasing both access to and impact of research conducted by Canadians or on Canadian issues. By means of the research community providing arm's length support to scholarly publishing that is consistent with federal government support for books and periodicals, and complementary to SSHRC's Aid to Journals program, Canada can create a journal publishing sector second to none and noteworthy for the ability of journals to choose a business model that maximizes their primary mandate to disseminate research. In providing a financial foundation for journal publishers to transform and upgrade their performance, the sector will attract research of greater significance that can be presented with an emphasis on ease of understanding, thereby expanding its market share of the publishing needs of Canadian and Canada-oriented researchers. Through innovation and professional training in this quickly expanding and increasingly complex sector, research journal publishing in Canada can be transformed from a second-tier operation to one of world renown, thereby bringing increased benefit to Canada from its investment in research.

Stakeholder Benefits

The overall social benefit of increased investment focused on innovation in journal publishing is a more robust and more effective circulation and uptake of Canada-relevant research-based knowledge accompanied by a diminished need for library purchase of overpriced non-domestic publishing services.

1. **Canadian journals** will benefit by having a financial foundation on which they can transform their operations through innovation and build competitive professional services that are primarily focused on Canadian research and achieve world-class standards.
2. **Researchers** will benefit from the existence of a recognized set of journal titles focused on Canadian contributions to their field of inquiry that can enhance the impact of manuscripts and provide national and international exposure and recognition.
3. **Canada's universities** will benefit from a stable, effective, professionalized set of journals capable of carrying the research of their faculty and students and hence their identities across the nation and around the world.
4. **Libraries** will benefit from
 - a. an increasing number of Canadian-owned, growing-in-quality journals that they can recommend to faculty and student researchers as authoritative sources of theory, data and analysis focused on Canadian realities;
 - b. well-resourced Canadian journals, that allow continued low pricing and set the stage for adoption of an open access business model.
5. **Research funders** will benefit from higher quality domestic journals with better peer review and the assurance that Canadian funded research will be better disseminated around the world with greater impact.

Structure of Funding

The two guiding principles for granting funds to publishers would be innovation that is undertaken to strengthen a title, and measurable impact including citation frequency, site and article visits and views, classroom usage, and awards. Journals would be encouraged to collaborate with other titles on projects that might benefit more than a single title.

Funding provided to publishers could be made contingent on recipients' willingness to share non-competitive findings and methodologies. CALJ could be charged with maintaining a site in which

findings and methodologies would be reported. As well, firms desirous of gaining access to expertise to adopt new practices based on the findings of others could apply for a limited term knowledge transfer grant.

The support of a range of activities would be appropriate and could be presented in a set of overlapping categories such as those that follow:

Training and Professional Development

Workshops, professional development at annual meetings, webinars, mentorships, attendance at international journal conferences primarily in the US and Europe, that include presentations on innovation and increasing impact.

Adoption of International Standards and Cost-efficient Practices

Adoption of DOI, ORCID IDs, enhancement of metadata, visual depiction of data, creation of image-based understanding, page presentation re-design to incorporate international standards and practices. Contracting out such work as xml rendering, which is a cost-efficient common practice could be included as eligible.

Team Building for a Digital Future

Hiring staff with digital publishing skill sets that have not been represented on a publisher's staff complement. Examples of such skills would include digital design, web management, programming, creation of interactive content, digital marketing.

Applied R&D

Experimentation with new forms of reporting research including multimedia, collaboration research and writing, iterative publishing, enhanced metadata focused on audience impact.

Marketing

Marketing of scholarly journals. Scholarly journal marketing is an art generally focused on making a title known to potential authors followed by increasing awareness of articles among the target audience of likely readers. Marketing goals can be achieved by

- attracting well-known authors;
- focusing on themes that are contemporary priorities;
- providing professional information of likely interest to authors and readers;
- providing usage feedback to authors;
- reaching out to underserved authors;
- enhancing article impact by design, editing, strategic SEO planning, etc.

All of the above are focused on attracting author and reader attention by adding value to the intellectual work expended by authors.

Collective Initiatives

Following the structure of public support for book and magazine publishers, a collective initiatives fund, primarily but not solely directed at industry associations, funds add considerable value through, for example, professional development planning and delivery, contracting for expertise that could be shared among interested journal titles, marketing of Canadian journals as a group to both authors and readers, monitoring industry development, contracting for web work, search engine optimization based on metadata, general practices for upgrading metadata with a focus on titles and expanding the use and nature of keywords, incorporating new tasks such as reference linking into

work into staff workflow, a registry of contract workers with designated expertise, a registry of reliable service providers, and so forth.

Amount of Funding

Overall funding at approximately double the current SSHRC budget (\$2 to \$3 million) is recommended as a signal to journals of the need to increase professionalism dramatically and take on a competitive role for Canadian content with respect to overpriced international journals. The Public Engagement Initiative would require separate funding of \$250,000 per year for 5 years. Should applications of sufficient quality fail to materialize funding can always be reduced.

Examples of Fundable Activities

Technology-based innovation (in collaboration with infrastructure organizations)

- Moving to XML-based publishing;
- Adopting DOIs;
- Encouraging authors to create and make available their ORCID IDs;
- Working with authors to restructure abstracts that are search engine optimized and clearly describe the nature of the study, theory, methodology, results, conclusions and implications;
- Creating plugins to customize an operation.

Production innovation

- Experimenting with new publishing protocols such as open review and interactive publishing;
- Modifications to enhance discoverability.

Training and continuing professional development

- Canada's post-secondary education system graduates thousands of students eminently capable of providing entry-level editing, design, programming, and administrative services. A funded program of professional development including annual face-to-face learning opportunities combined with webinars and the ability to attend conferences within and outside Canada would readily provide the foundation for transforming Canadian journal publishing. Relevant organizations that provide both exposure to best practice ideas and focused training include CALJ with its AGM and Conference and its workshops, the Society for Scholarly Publishing, Association of Learned and Professional Society Publishers, Council of Editors of Learned Journals, and the Council of Science Editors, European Association of Science Editors.

Service innovation

- Adding staff to the editorial contingent present in all journals who have skills such as design, technology and strategic planning skills to increase journal impact;
- Hiring consultants to assess journal operations and advise on the adoption of new technology and production processes, advise of the logistics of adopting new technology;
- Adding visual content that depict both abstract ideas and provide images of data;
- Encouraging public access through, for example, digests of research likely to be of interest to the public, the use of ordinary language summaries;
- Innovation in page and content design to increase readability and interactivity;
- Encouraging valuable contributions other than full research articles such as technical reports, field notes, hypotheses, commentary;
- Increasing the organization of reference checking tying into databases for accuracy etc.,
- Implementing publication ethics procedures to guard against plagiarism, dishonesty, and so forth.

Impact innovation

- Adopting usage analysis software, e.g., Altmetrics, to develop strategies for increasing impact with targeted audiences;
- Usage analysis, for examples, which articles gain the most attention, which appear to be used in classrooms, which are cited most frequently, what differences exist between the journal's site and secondary aggregator sites, year of publication and amount and nature of use, and so forth.

Marketing innovation (as noted in the Structure of Funding section)

- Attracting well-known authors;
- Focusing on themes that are contemporary priorities;
- Providing professional information of likely interest to authors and readers;
- Providing usage feedback to authors;
- Reaching out to underserved authors;
- Enhancing article impact by design, editing, strategic SEO planning, etc.
- Increasing awareness of various penumbral academic and non-academic audiences.

Proposed Eligibility Criteria

The proposed target market for assistance is not-for-profit scholarly journals owned by Canadians and controlled both editorially and in their financial operations by members of the Canadian academic community with expertise-appropriate, scholar-staffed, active editorial boards. In addition to single titles, submissions from groups of journals and by journals and their partners should be encouraged. All applicants would be expected to build on or innovate beyond existing innovation, e.g., in the provision of online publishing infrastructure. The sites of innovation would be journals rather than services provided by others. With that goal in mind, the following are proposed as eligibility criteria:

1. Not-for-profit scholarly journals or groups of journals owned by Canadians and controlled by members of the Canadian academic community with expertise-appropriate, scholar-staffed, active editorial boards;
 - a. Editorial boards would have a minimum of seven researchers from at least four different institutions;
 - b. Exclusions:
 - i. Student journals;
 - ii. journals that are published and/or controlled, especially in revenue generation, by for-profit publishers or service providers; and,
 - iii. journals that are unwilling or unable to provide a complete financial picture of revenues and expenditures;
2. Adjudication would include consideration of applicants' use of demonstrably sound publishing and peer-review processes and usage analytics;
3. Eligible applicants would be based in Canada and overall, have a Canadian subject focus or a primary market/readership in Canada and have predominantly Canadian editorial control;. Certain elements of support could be restricted to journals with a predominant Canadian readership.
4. Eligible applicants would have published a minimum of 24 peer-reviewed articles over the preceding three years, at least 50% of which are authored by researchers other than those on the editorial board;

5. Eligible applicants would be required to submit clear, attested or audited, detailed full financial and effort-required statements inclusive of all revenues and expenses, voluntary contributions, and contractual obligations.
6. Eligible applicants would adhere to SSHRC and Tri-Council open access principles.

Administrative Recommendations

In addition to stakeholder representation on the decision-making bodies of the proposed fund, knowledge of the global journal publishing environment is essential to ensure that the proposed fund is effective. Accordingly, CALJ recommends that

1. This fund be administered by SSHRC and that the coordinating committee be composed of
 - a) scholars with publishing knowledge and experience;
 - b) senior staff members of such publishing organizations as U of T Press Journals, Canadian Science Publishing, Erudit and the Canadian Institute for Studies in Publishing Journal Services division;
 - c) representatives of smaller independent journals (with appropriate knowledge);
 - d) representatives of research libraries with extensive publishing knowledge;
 - e) representatives of the following with publishing experience
 - i. the relevant research funding agency (ie., SSHRC),
 - ii. Canada's universities and post-secondary institutions;
2. The main funding would consist of grants to individual or groups of titles to be allocated on an ongoing basis and adjudicated every 3 years. They would be tied to a program of innovation and transformation to increase effectiveness in reader reach and engagement. The adjudication process could follow within 6 months of the announcements by SSHRC of the results of the Aid to Journals program to take account of SSHRC funding.
3. A sub-fund be created to allow journals to respond to "emerging opportunities" (to be administered by an executive committee representing journals and two other subsectors);
4. In the beginning years at least, funding be made available to CALJ directed at broadly auditing and benchmarking the operations of individual journal titles, defining achievable levels of best practice for all Canadian journals, and creating incentives for journals to adopt Canadian best practice;
5. Fund adjudication be facilitated by information technology as opposed to travel;
6. Funding be as explicitly defined and formulaic as possible to reduce administrative costs;
7. Efficient and/or effective performance be rewarded to allow accumulation of sufficient funds to undertake major innovation and growth projects;
8. The administrative secretariat of the fund maintain currency with international standards and practice and in so doing play a leadership role for individual titles.

A Public Engagement Initiative

Whether it is *Nature* or *Science* or *The New England Journal of Medicine*, *The Economist*, in former years, *Scientific American*, and even the CBC's Quirks and Quarks, the presence of public audience-oriented research communication initiatives in the public sphere to which the research community, decision makers, and the public pay considerable attention, presents an alluring picture of a potential intensive public engagement with research. The proposed initiative of this document and the currently dynamic communications environment together with current university and government emphases on public engagement with research can be read as a significant opportunity to launch and attempt to increase the public profile of SSH research substantially. A determined effort building on parallel initiatives in other countries, the activities of individual institutions, the need for professional skills, and the promotion of other sectors such as literature and other artistic endeavours, could very well succeed in changing the public

perception of the value of SSH research and their engagement with it. While this proposed initiative is high risk, the rewards in terms of public engagement could be dramatic.

It is proposed that this public engagement initiative be seed funded and that a full proposal be developed under contract by a small team of academics and trade periodical publishers including, at a suitable stage, a person identified by the team as a likely publisher. A successful endeavour would depend very much on the energies and imagination of a leader supported by seasoned experts totally committed to making such a publication work.

Closing Comments

Canadian journals welcome the increasingly complex journal publishing environment for its capacity to spread knowledge far and wide, and for its yet-to-be-realized representational and interactive opportunities that will dramatically transform the expression, understanding, and nature of knowledge. A continuing commitment to funding can encourage setting aside the pursuit of market revenues in favour of concentration on increased reader reach and engagement with the integrity that has always been a part of scholar-run publications. Even better, Canada could play a leadership role in advancing journal publishing practice on the foundation of not-for-profit titles combining experimentation with collaboration generating expertise spread across the country that could readily transfer to other sectors of publishing and public engagement.

This proposal focuses on SSH journal publishing, however, there is no reason why it could not be extended to encompass the whole of academic inquiry with the intent of transforming the reporting of Canadian research into a notable public resource with global reach.

Investment in Canadian-based research communication that transforms data into engaging and insightful facts, theories, analysis, and images that distinguish themselves on the world stage opens Canada's doors to the best and the brightest to participate in Canada's research enterprise. Such investment will generate net benefits, not result in net expenditures. The proposed Journal Impact and Innovation Fund can play a major role in bringing about those net benefits.