

Publishing an International Scientific Journal in Business & Economics

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Abstract

Publishing an international scientific journal: should it be for profit or not? what is the "right" business model? Alternative business models are evaluated for their suitability. A strategic group analysis reveals the current situation in the sector. The business functions are described across the categories proposed by Hagel & Singer (1999). The description of the value creation, collection and distribution processes is structured around the Osterwalder & Pigneur (2010) business model generation approach. The author's experiences as a publisher of the international scientific journals "MIBES Transactions on Line" & "PRIME" are being used where applicable to support the analysis. The analysis is followed by a number of conclusions and points for further research.

Keywords: strategy, journal, publisher, MIBES, PRIME

JEL classifications: I20, I23, O32, O33

Introduction

Academics are pressured to produce research publications in order to be promoted. In order to prepare their publications they need access to published research. Those two needs are satisfied by scientific journals. The intermediation for journal access is traditionally done by libraries in the relevant tertiary institutions.

The publication of journals is a specialized activity that initially started from academic institutions and professional associations and later most of it has become a consolidated business activity run by for profit businesses. A scientific journal startup is not a common activity in most academic institutions. In many cases this effort is not institutionalized or centrally supported, but is rather based on the efforts of individual academics who want to advance themselves and their institutions to a higher maturity level. The current paper describes such an effort using as case studies two scientific journal startups in business and economics, i.e. MIBES¹ Transactions on Line and PRIME².

The need for scientific journals

The Greek Universities NETwork (GUNET), an alliance formed by all tertiary institutions (Universities and T.E.Is³ as parts of a two-tier sector) in Greece, on behalf of their libraries, has come to a common agreement with a subset of international publishers who provide paid access to their journals from the institutions' campuses computers

¹ Management of International Business & Economic Systems, <http://mibes.teilar.gr/mtol>

² Practical Issues in Business & Economics, <http://prime.teilar.gr>

³ Technological Educational Institutions / Institutes of Technology

using IP recognition. Some institutions pay extra for access to other journals needed by their academics but are not included in this agreement.

Such agreements exist between associations or individual academic institutions or libraries around the globe (McGuigan & Russell, 2008). While these agreements provide much needed by academics literature resources, the ability to pay the high prices charged by the for-profit publishers cannot be met by most higher institutions in developing countries. Even in the rich countries and institutions there are discussions that reflect a growing dissatisfaction because of the high cost of journal subscriptions (McGuigan & Russell, 2008).

Figure 1 taken from the Association of Research Libraries (2011) shows that the cost to libraries for the acquisition of scientific journals, have accelerated during the past decades while the costs of publication and development and the number of purchased papers have not risen significantly.

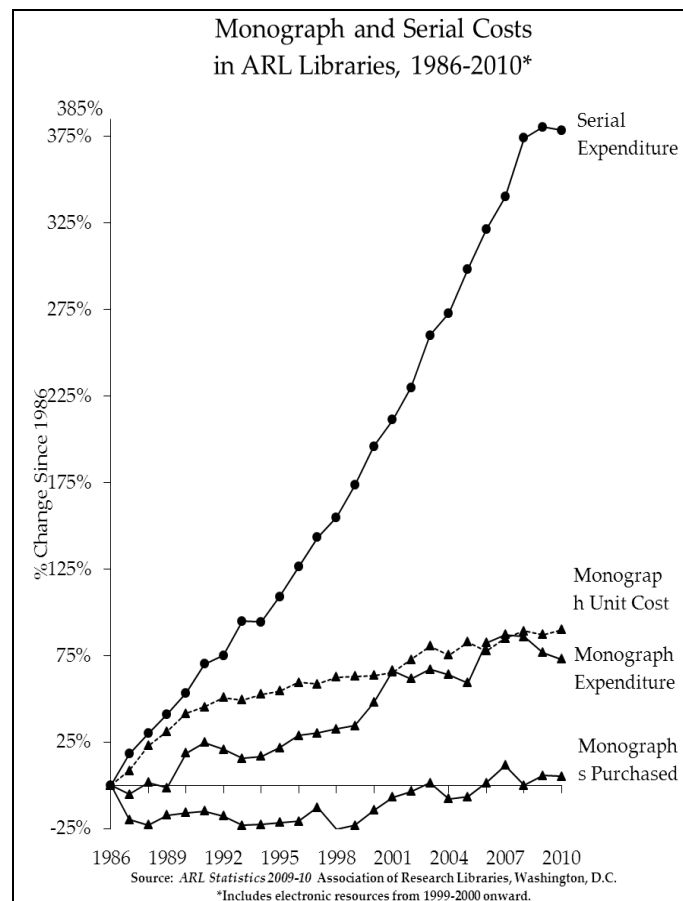


Figure 1: Adapted from ARL (2011)

The impact of established scientific journals has built strength over time and their demand from academics is very high, resulting in an inelastic demand from libraries and high profit pricing from publishers (McGuigan & Russell, 2008). This has resulted in a continuous further strengthening of the position of for profit publishers who invest part of their profits to quality processes and continue to proceed to strategic acquisitions of journal titles from

smaller publishers. A short strategic analysis of the industry groups developed is given in the next section.

The need for high quality and low cost has resulted in numerous startups of open access scientific journals based on the initial traditional business model that differs considerably from the one followed by the for-profit publishers. A description and comparison of the available business models is provided in another section of this paper.

An important issue that is not yet widely understood is that peer recognition is at the author level, and authors are academics who follow careers in different institutions. Their contribution is significant to the prestige of their institutions but only as long as they work there. Most libraries in academic institutions, but also academics and the management hierarchy do not realize the potential recognition of institutional maturity and market impact when the institution itself becomes a publisher of scientific journals. This point of view is usually overlooked and is not given sufficient recognition. We can easily conclude that there is a need for the development of metrics for publication activities by tertiary institutions.

From personal experience in the institution I currently work for, considerable amounts of money are spent for academics to attend conferences or to subscriptions to scientific journals, but very limited support is being given to the development of the in-house publishing capabilities. While two open access scientific journals that have been developed voluntarily within the institution, each year a small support budget that covers only the basic expenses must be requested and approved like it is a for new startup project. The repository being used for hosting of the papers is on an old PC with all the relevant maintenance problems rather than on one of the institutions' minicomputers. A permanent quality secure repository is needed while the move to the installation and support of a journal information system is a strategic choice that is necessary for the long run viability of this effort.

One important issue that one can easily identify by visiting the Greek libraries' webpages is that:

- 1 The for-profit journals occupy a well identified section that can be easily found.
- 2 The open access journals are not listed in the same section or are not listed at all. The academics have to search for them using a common search engine like google.
- 3 The institutions' own journals are not listed in the same section like the for-profit journals.
- 4 Systematic training of young researchers in finding articles includes only the for-profit journals.

We can easily conclude from the above analysis that:

- 1 Greek tertiary institutions' libraries should organize open access scientific journals in a systematic way in order to have at least the same visibility, access and training like for the for-profit journals.
- 2 Tertiary institutions that have a proved record in publishing in-house should consider these efforts of strategic nature and

provide them with the resources required in order to become internationally competitive.

Strategic Groups in the Scientific Journal Industry

According to Mark Ware Consulting (2009):

There are about 2000 journal publishers globally. The main English language trade and professional associations for journal publishers collectively include 657 publishers producing around 11,550 journals, that is, about 50% of the total journal output by title. Of these, 477 publishers (73%) and 2334 journals (20%) are not-for-profit. The distribution of journals by publisher is highly skewed. At one end of the scale, 95% or more publish only one or two journals, while at the other end, the top 100 publish 67% of all journals. The top 10 publish about 35% of journals, while four publishers (Elsevier, Springer, Taylor & Francis and Wiley-Blackwell) have well over 1000 journals each.

Amongst the "long tail" of organisations producing just one or two journals, many of these may not even regard themselves as "publishers" (e.g. academic or government research departments) (Morris 2007).

In order to identify the strategic groups we can use the variables [1] scope of the organization's activity and [2] resources and competences as identified by Porter (1980). These variables are constituted from a number of dimensions for which various measures can be used. The scope of activity can be measured by the number of journals published and the size of the market (libraries) served. The resources and competences can be measured by financial capability, technical competencies and Human Resource competences.

By using the above categorization it is thus easy to identify three distinguishable strategic groups within the almost 2000 existing publishers. The first is formed from the major for profit commercial publishers Elsevier, Springer-Kluwer and Wiley-Blackwell (McGuigan & Russell, 2008) that account for about 40% of the articles published, have customers in most tertiary institutions in developed countries and have high revenues. They started long time ago with the acquisition of several recognised open access scientific journals from academic institutions or associations, a process that they continue today, and they now publish a critical mass of journals that they sell for profit to libraries. These publishers have developed considerably through time and have become oligopolies with high barriers to entry (Chressanthis & Chressanthis, 1993). They use the latest technologies, have high financial capabilities and attract the best editors, authors and reviewers in their ranks. An interesting late development in this strategic group is the inclusion of specialized open access journals, adding scope and strengthening their strategic position.

Next to this strongly positioned strategic group are medium to small size publishers that produce a small number of quality scientific publications in restricted scientific areas. The size of these publishers is comparatively small. None of them produces more than 3% of the scientific narticles. These publishers are either commercial for profit or academic institutions or academic or professional

associations. Their business model is either for profit or open access or hybrid.

A third strategic group is small publishers, mostly from academic institutions or academic or professional associations that publish one or more scientific journals and are restricted in scope, market and capabilities. A significant development in this strategic group are large academic institutions in developing nations that strategically pursue new series using the open access model. Such a successful example is the Atatürk e-journal portal⁴ that started in 2009 is based on the open journal system (OJS) and serves as a repository for 21 academic journals most of which were startups after the inception of the OJS.

There is tendency for small publishers to give away their investment to the bigger publishers who approach them with several incentives, the most important being their greater visibility via their installations worldwide, promising an increased impact factor. These propositions become highly attractive to smaller publishers who make comparatively much higher efforts to keep their publications going, especially when their own institutions do not recognise the strategic value of these investments.

The escalating cost for libraries' access to scientific journal serials is a hot discussion topic, especially in the developed countries that spend considerable percentage of their budget to scientific journal access. One of the key debated points in the publisher-library contractual agreements is that past issues are only available during the rental period, and papers cannot be downloaded and stored by the libraries for further search and access after the agreement period is over.

For-profit versus Open Access Business Model

Before we make a distinction between the two major business models it is useful to draw on the general publishing model for scientific journals.

From an exploratory study done to a sample of over 1000 publications by Kaufman-Will Group, LLC (2005) on behalf of the Association of Learned and Professional Society Publishers (ALPSP), the HighWire Press division of the Stanford University Libraries, the American Association for the Advancement of Science (AAAS), and the Association of American Medical Colleges (AAMC), the following conclusions were drawn regarding the open access publishing model in relation to the for-profit model:

1 It was too early to tell at the time whether full open access is a viable business model. The study has not been repeated since then so this statement is difficult to be tested whether it still holds true. The Greek case shows that this statement is absolutely true but it is a very small sample comparing to the international community. A non systematic examination of a number of smaller countries in Europe that I have access as a publisher and reviewer shows that the statement holds true for them as well. The future of open access depends very much on the large producers and consumers of scientific knowledge. Until recently they have been

⁴ <http://e-dergi.atauni.edu.tr/>

the rich countries like USA, Australia, UK, Canada and some of the northern European countries. Now China and India play a significant role in these developments. It is common knowledge to all academics the emails that we receive from new Indian scientific journals that invite us to submit papers. These efforts depend largely on fees charged to authors. Some have institutional support, some others are receiving support from professional societies.

- 2 Scholarly journal publishing is in an unprecedented state of flux on whether there will be a continuation of financial support from the various stakeholders. This is true not only for open access but for the-profit publishers as well. Some for-profit publishers offer open access in a delayed mode (after some months from first publication) in order to promote new journals or testing alternative modes of revenue from authors. The combination of open access with on-line publishing has become a significant threat to the for-profit publishers.
- 3 Peer review and copy-editing may be less rigorous with some categories of full open access journals run by for-profit companies, especially those that run advertisements in parallel to their scientific content.

It is clear that there is a need for further research on the economic sustainability of journals in relation to the economic models applied by libraries and tertiary institutions.

A significant evolution in the development of open access publishing has been the alliance of universities and research libraries SPARC (Scholarly Publishing and Academic Resources Coalition) aiming in the reduction of cost by providing consultancy on the selection and use of alternative business models. An interesting project funded by the European Union is PEER (Publishing and the Ecology of European Research) that started in 2008 and finished in 2012 has come to the following conclusions:

- 1 Publishers, research libraries, and research organisations can successfully collaborate in the area of Open Access
- 2 Researchers sympathise with Open Access but don't see self-archiving as their task => Funders, Research Institutions and Research Libraries need to provide the necessary infrastructure
- 3 Large-scale deposit of stage-two research outputs in repositories increases access
- 4 There is no evidence that self-archiving has harmful effects on journal viability
- 5 The PEER project has successfully created an infrastructure (technical, workflows, guidelines) for large-scale publisher deposit into repositories which can be deployed
- 6 The Discourse is evolving From Open Access to Open Access & (Re)Use => Development of institutional and disciplinary repositories as integral content nodes in the European and global eInfrastructure Green AND gold converge

Figure 2 presents the value chain model of a scientific publication and incorporates both traditional and electronic publishing for both open access and for-profit publishers. The dark parts are not necessary in the open access publishing model.

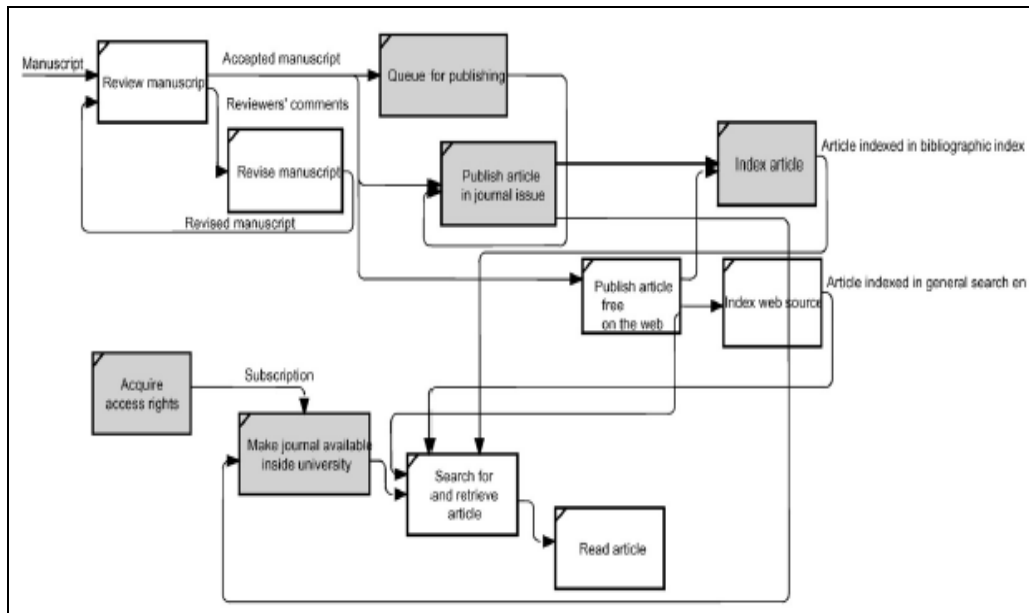


Figure 2: Adopted from Hedlund, Gustafsson & Björk (2004)

A number of technological developments like library information systems and organized publishing efforts by some tertiary institutions have made the open access publishing easier.

Another important distinction between the two publishing modes is that often the author grants exclusive copyright over their work to the for-profit journal, while in most of the open access publishers the copyright remains with the author and has some form of open license similar to the licenses applied in the open source software.

One important issue that is often overlooked is that for-profit publishers are in the business of maximizing profits while open access publishers are satisfied by meeting their financial obligations. The open access publishers are thus more independent in their decision making.

Finally, open access articles are cited more often on average in comparison with their for-profit counterparts, partially because academics in poor countries do not have access to them. This does not mean that their impact is higher though. Since the majority of new frontier research is being developed in the richer countries, the research papers and relevant citations have by far greater impact in the traditional commercial journals.

The question of ethics is of higher priority (Safa, 2008). Prestigious journals from commercial publishers have formalized the relevant issues and have achieved better quality control. It should be mentioned though that some researchers consider that the traditional publishing system is biased and unreliable (Cassella & Calvi, 2009). For the moment, less prestigious open access journals do not attract criticism on plagiarism and other ethical issues but as soon as they become more cited they will be under scrutiny on similar grounds with their commercial counterparts. One important development in this area is some open access journals apply the open review process. Open review is done for a restricted time period where the issue is considered as "changeable" and the papers are open to everyone for review. Some journals apply closed peer review for quality control and

open review for quality improvement. Such examples are MIBES Transactions On Line (<http://mibes.teilar.gr/mtol> and PRIME (<http://prime.teilar.gr>) that are reviewed using double blind peer review since their inception and both ways since 2011.

Business Functions

Hagel & Singer (1999) has categorized the business functions as customer relationship, product innovation, and infrastructure and have argued that organizations should separate them and focus on only one internally and outsource the rest.

Customer relationship is the main business function for a publisher of a scientific journal. Improving the desirability of authors to submit and review papers and to use the journals for reference in their future work is critical, provided that there is a direct link between this desirability and the subscription and support business functions at the purchasing libraries.

Should the product innovation be outsourced? The core of the product innovation is in the research being analysed in the scientific papers and depends on the customer relationship function. Innovations in the form of easier access from both authors, reviewers and readers point of view are made possible either by applying journal information systems with improved functionality or by providing professional assistance in developing and editing the content. This function though, if outsourced, could result in the loss of strategic capabilities and operations that are the only ones that appear to the customer as providing some value by the publisher.

Should an infrastructure be developed specifically for the business or outsourced? The infrastructure is mainly the journal information system. The internet as a wider platform is common to all. The modern systems are internet based and all the activities are done electronically. The distribution of the hard copy publications via specific distribution channels is almost obsolete.

Modern journal information systems may include customer relationship management capabilities that can support the main business function on top of the two less critical secondary functions for quality improvement plus innovation and infrastructure.

Since the journal information system is both the infrastructure and the support platform for the publication processes, the three business functions in a scientific journal publication seem to be justifiable as necessary to be provided strategically at the corporation level. The corporation of a for - profit organization though can separate the three business functions into three separate business units.

Similar arrangements can be applied in the open access model. For example, in a university, one or more scientific journals can be published using a common journal information system and product innovation could be developed around a core team, possibly in the library and customer relationships would evolve around each publication team. A significant development is the development of open source journal information systems that provides advanced capabilities to smaller publishers with restricted capital who have human resource capital availability.

A significant conclusion coming out of this analysis is that tertiary institutions who want to pursue scientific publishing in house must support the adoption and operation of a journal information system.

Value creation, collection and distribution processes

The business model as described by Osterwalder & Pigneur (2010) is built from nine parts or blocks. These are described and documented in the following paragraphs.

Customer Segments

The final customers are the research staff and students of tertiary institutions who are being served by their corresponding libraries. The libraries pay either separately or under joint agreements for the rental of journal access to a number of for-profit publishers. The libraries get free access to journals published under the open access model. The Greek libraries pay jointly under the GUNET⁵ umbrella and have developed interface links to for-profit electronic journals but ignore in most cases the need for a common interface for accessing the open access journals. In many institutions, the library interface for electronic journals points only to the for-profit journals, while the open access journals, even the ones developed in house are not included in the same interface and the students are not guided to their use. This phenomenon is a paradox because it is observed more in higher institutions of smaller and less developed countries where the budgeting constraints are higher.

It is profound that libraries and institutions have various levels of understanding regarding the benefits of development and promotion of open access journals for their strategic positioning.

Value Propositions

The added value of journal publications is the collection, storage and dissemination of knowledge. Storage and distribution is facilitated using advanced repository facilities with efficient search engines as parts of journal information systems. A large percentage of high quality journals have been acquired and are controlled by for-profit companies. The prestige of high quality journals has been built over time and pulls publications from acclaimed authors and reviewers. A significant number of open access journals are in this category but the majority belongs to for-profit large publishers who have the ability to pay for high quality standards in editing and publication processes. The adoption of journal information systems have automated a large part of the storage and dissemination processes and high quality is possible in these areas with minimal cost. New developments of open library information systems make easier for smaller not-for-profit or open access publications to minimise their cost and maximise their value through advanced interfaces and quality control.

Very important developments are happening in the value propositions during the last few years. According to Cassella & Calvin (2009) new journal models evolve, the most important being overlay journals, interjournals, and different level journals. We provide the definitions below:

⁵ From the initials **G**reek **U**niversities **N**ETwork

"An open-access journal that takes submissions from the preprints deposited at an archive (perhaps at the author's initiative), and subjects them to peer review.[...] Because an overlay journal doesn't have its own apparatus for disseminating accepted papers, but uses the pre-existing system of interoperable archives, it is a minimalist journal that only performs peer review." (Suber, 2009)

"InterJournal⁶ is a referred journal that does not host full-texts directly but only metadata and comments. Manuscripts and related raw or processed data, computer programs, video, audio are immediately accessible upon submission into six different categories of publications and then evaluated by qualified referees who access the submitted manuscript and assign an appropriate subject area to it." (Cassella & Calvin, 2009)

"The different level journal ISbased on the idea of creating a topic-based journal, as a macrocollection, structured in sub-collections."(Cassella & Calvin,2009)

An example of a different level journal is the B.E. Journal of Theoretical Economics⁷

Channels

The collection and distribution channel is the internet and the libraries. The libraries can play a significant role in the selection of the subscription journals and on the organization of access to open access journals. It is profound that a library can create extra value to its customers by identifying, collecting and making access to relevant scientific open access journals.

Customer Relationships

The academics are both the providers and consumers of academic research publications. This is a unique case in all industries where the publisher exploits both the producer and the customer. The academic as an author produces the research papers, that is the main product included in the scientific publications. The academic as a reviewer participates in a quality control process that adds significant value to the publications. Finally, the academic is the customer who has a say on what subscriptions should be bought by the library or the institution that [s]he uses in his/her research work.

Revenue Streams

The revenue in the for profit publications is from the libraries usage. The revenue in the open access publications comes from the institutions and/or the authors.

⁶ <http://www.interjournal.org/>

⁷ <http://www.degruyter.com/view/j/bejte>

Key Resources

The key resources are people, academics as authors or reviewers, editors and internet based journal information systems. Larger publishers require a number of administrators for marketing and management operations.

Key Activities

The key activities are collection and review of academic papers, and their publication and distribution. Secondary activities are editing and revenue collection.

Key Partnerships

Key partnerships are with organisers of academic conferences for the collection of the research papers, with professional associations for resourcing of authors and reviewers and with libraries and institutional alliances for subscriptions.

Cost Structure

The cost of some key activities like collection and review is free. Authors are not paid to prepare or review papers because they need them to get promoted. There might some cost associated with the administration and hosting of the journal information system. Secondary activities like editing and revenue collection might have some cost for the for-profit publishers while in most open access publications is provided by volunteers.

Conclusions

The strategic analysis in the current paper has shown that:

Most libraries in tertiary institutions do not seem to realize the significance of two important strategic developments in the publishing sector. The first one relates the internal publication activity of scientific journals. The second is organizing and facilitating access to the open access journals. The latter could involve the development of local repositories of papers based on their demand.

Tertiary institutions' libraries should organize open access scientific journals in a systematic way in order to have the same visibility, access and training like for the for-profit journals. There is definitely a need for the libraries and the institutions' management and possibly the GUNET administration to understand this issue and organize and apply such a policy accordingly to all participating tertiary institutions.

Institutions that have a proved record in publishing in-house should consider these efforts of strategic nature and provide them with the resources required in order to become internationally competitive. The critical support required can be easily provided and should incorporate continuous institutionalized support for hosting and installation and administration of a journal information system. Such a system could be adopted within the GUNET framework like the e-class platform that is now being widely supported and used by all members.

Tertiary institutions that want to pursue scientific publishing in-house must support the adoption and operation of a journal information system. Organized efforts can start in larger institutions that have the capabilities to quickly develop such capabilities. Such an effort can be easily become viable if a proper journal information system is adopted and its operation is supported.

It is clear that there is a need for researching the various variables related to the economic sustainability of journals in relation to the economic models to be followed by libraries and tertiary institutions in relation to their academic ranking.

Policies for funding the development of the publication infrastructure of the open access scientific journal publication activities may provide them with capabilities for significant quantitative and qualitative improvements that would result to healthier competition with the for-profit publishers.

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