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BUSINESS ASPECTS OF ACADEMIC PUBLISHING

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Abstract. Academic publishing is a specific segment of the publishing industry that is crucial for disseminating and commercializing scientific results and creating innovations. The study examines the business aspects of academic publishing and the role of intellectual property management in current business models. The research subject is academic publishing, and the object is the business models that transform academic publishing into a business with a high-profit margin. The author's thesis is that the objectives of academic publishing should align with the primary goal of scientific communication – the sharing and dissemination of scientific knowledge, which is achieved through open access. Open access, as a model of intellectual property management, is the key instrument enabling the timely utilization of scientific results in academic publications, fostering innovation across all industries, and achieving the goals of open science.

Keywords: academic publishing; business models; intellectual property; open access

Introduction

In 1610, Galileo Galilei sent a letter to Johannes Kepler and other competitive colleagues containing the following anagram: “smaismrmilmepoetaleumibunenugttauiras”, in which he encoded his discovery of two additional bodies around Saturn (later identified as its rings). The purpose of the coded message was not only to announce his findings but also to prove that he was the first among his peers to observe the phenomenon. At the same time, Galileo sent a letter to his financial patrons, the Medici family, whose support he relied upon, describing his discovery in detail (Nielsen 2012). This example illustrates the dual nature of scientific communication, which aims, on the one hand, to share new scientific findings with the public and other researchers while establishing authorship and, on the other, to secure funding for scientific activity and implementation by society. Today, scientific communication is conducted through academic publishing, with researchers' letters being replaced predominantly by publications in scientific journals. Through these publications, researchers present their findings, some of which lead to the development of innovative products and services.

In recent decades, academic publishing has become a significant sector of the publishing industry, operating under business models that rely on unique strategies for intellectual property management unparalleled in any other creative industry. Numerous authors have explored various aspects of academic publishing, such as: (1) The high-margin nature of academic publishing and the impact of open access on costs and public funding (Larivière et al. 2015; Siler & Bero 2020). (2) The global costs of article processing charges (APCs) for open access publications (Haustein, Schares, & ed. 2024). (3) The differences in publishing costs across different scientific disciplines and journals, as well as their contribution to academic careers (Garfinkel et al. 2024). (4) The role of digitalization in the emergence of new business models in academic publishing (Jezovnik 2017; Stavrova 2022). (5) The need for strategies to democratize academic publishing in the interest of the debate of ideas (Blommaert 2014).

1. Academic Publishing as Part of the Publishing Industry

What is the most profitable business in the world? According to Robert Lazenby, it is neither oil nor banking but academic publishing, with profit margins often exceeding 40% (Lazenby 2019). Academic publishing plays a fundamental role in creating, communicating, and disseminating scientific results, which form the foundation of innovation and technological progress. Academic publishing is a unique segment of the publishing industry, with distinct characteristics, business models, and added value that set it apart from other sectors.

The global book market generated revenue of USD 151.0 billion in 2024 and is projected to reach USD 192.1 billion by 2030¹. Within this market, the academic publishing industry generates approximately \$19 billion annually worldwide².

The academic publishing market is characterized as an **oligopoly**, in which five publishers (*Elsevier, Springer Nature, Wiley, Taylor & Francis, SAGE Publications*) dominate more than 50% of the market. Academic publishing is based on the communication and dissemination of scientific knowledge, which is essential for the development of innovation and technological advancement. Thus, academic publishing serves dual purposes: on one hand, it must safeguard public interests and ensure access to scientific knowledge, while on the other, like any creative industry, it seeks to generate profit through various intellectual property management models.

Academic publishing can be divided into two main categories: **(1) University Presses** and **(2) Commercial Academic Publishing**, which, although both part of scientific communication, have different business goals and strategies for the management and commercialization of intellectual property in science.

1.1. University Press

“University Presses are at the center of the global knowledge ecosystem”³. University presses are typically structured as departments within universities and research institutes, with many operating as non-profit entities, though some manage

to generate profits. The five most prominent university presses are: *Oxford University Press*, *Cambridge University Press & Assessment*, *Harvard University Press*, *MIT Press*, and *University of Chicago Press*.

“In a market economy, the primary objective of most publishers is modest: to sell enough copies to cover operational costs such as employee salaries, taxes, and other expenses, while ideally making a profit and paying royalties to authors. However, for university presses, the mission is different. Their goal is to contribute to scholarship while striving to remain financially sustainable” (Greco 2005). While most university presses operate at a loss, a few, such as *Oxford University Press* and *Cambridge University Press & Assessment*, achieve significant profits through strategic management, including the development of global educational products for schools. The activities of associations and scholarly societies should also be included within the scope of university press publishing due to their non-profit orientation and similar scholarly mission.

1.2. Commercial Academic Publishing

The sector of commercial academic publishing is the primary reason academic publishing is often regarded as one of the most profitable businesses in the world. These are publishing houses specializing in the publishing of academic literature, established with a commercial purpose. The “publish or perish culture” (Moosa 2024) has driven the growth of scientific scholarly journals – most published by commercial academic publishers – and the volume of publications within them. These journals are a primary medium for researchers to communicate their scientific results, influencing their academic careers.

In recent years, the number of journals available for publication has grown exponentially. As a sub-field of academic publishing, academic journal publishing has led to the development of a market characterized by an oligopolistic structure and profit-driven. The high-profit margins of commercial academic publishers raise many questions about the business models that sustain the profitability of the “big five” in academic publishing: Elsevier, Springer Nature, Wiley, Taylor & Francis, and SAGE Publications. For instance, Elsevier’s profits exceed those of companies such as Microsoft, Google, and Coca-Cola. In 2023 Elsevier reported revenues of \$3.8 billion with an operating profit margin of 38%⁴. This financial success highlights the economic power of commercial academic publishers and their significant role in shaping the global academic publishing landscape.

2. Characteristics of Academic Publishing

The specific nature of academic publishing distinguishes it from traditional publishing due to the nature of the publishing products, and it represents a complex mix of achieving the goals of scientific communication and economic sustainability. This is achieved through the distinct characteristics of academic publishing, such as the management of intellectual property, the types of publications, the nature of

the content, the editorial process, citation, and the medium, which are crucial in shaping business models.

– **The management of intellectual property** is key to accessing and disseminating scientific knowledge. A distinctive feature of academic publishing is that, in most cases, authors transfer their copyrights to publishers through copyright transfer agreements without paying remuneration or royalties. Additionally, authors are often required to pay fees to have their works published – a model not applied in other sectors of the publishing industry. The success of specific business models in academic publishing is primarily attributed to this specific approach to intellectual property management.

– **The types of publications** produced and disseminated through academic publishing include monographs, books, textbooks, and scientific journals. The established rating systems of publications (e.g., *Journal Impact Factor*, *Journal Quartile Rankings*, *SCImago Journal Rank (SJR)*, *Eigenfactor Score*, and *Article Influence Score*) add value and profitability to publishing products. Another highly lucrative publishing product is databases, which, in a digital environment, have become a key factor for scientific activities and outcomes.

– **The nature of the content** managed in academic publishing determines its specific added value, owing to the universal applicability of scientific knowledge across all spheres of society and industries. This defines the broad spectrum of the **audience (readers)** for academic publications, which, while highly specialized, include scholars, researchers, students, governments, and businesses. On a secondary level, this knowledge creates a wide range of applications through new forms of utilization and implementation of the content. **Libraries** serve as key intermediaries providing access to scientific knowledge, leveraging various options to ensure access to academic publications and databases.

– **The editorial process** in academic publishing is unique within the entire publishing industry. Due to the specialized nature of the content, the review and evaluation of its scientific value and applicability involve scholars participating in the peer review process, who do not receive remuneration for their activities, but rather reputational benefits.

– **Citation** is a crucial aspect of knowledge sharing and an indicator of scientific influence. As part of scientific communication, it provides a permissible means of freely using the works of other scholars. High citation rates suggest the greater influence of scientific knowledge, which is measured through various ranking systems and metrics, such as the *Impact Factor (IF)*, *CiteScore*, *h-index*, *Eigenfactor Score*, *SNIP (Source Normalized Impact per Paper)*, and *Field-Weighted Citation Impact (FWCI)*. Citation plays a key role in evaluating the scientific reputation and ranking of researchers, publications, universities, and even countries (Table 1). The established systems for rating scientific publications, universities, research centers and countries are becoming a leading factor in scientific communication and fund-

ing of scientific activity, demonstrating competitiveness as a result of creativity and innovation (Krushkov & Zayakova-Krushkova 2024). The rankings of countries and universities have a direct impact on innovation, development and public funding, part of which is used specifically for new scientific publications.

Table 1. Top 10 countries by h-index for 2023⁵

No	Country	Documents	Citable documents	Citations	Self-citations	Citations per document	h-index
1.	United States	714 412	609 674	654 637	270 853	0.92	3051
2.	United Kingdom	238 568	201 255	272 435	66 276	1.14	1928
3.	Germany	202 397	179 861	202 876	56 510	1.00	1690
4.	Canada	12 850	113 461	137 877	27 662	1.07	1562
5.	France	12 230	110 009	121 557	26 658	0.99	1514
6.	Australia	119 770	105 340	156 522	32 458	1.31	1377
7.	Netherlands	72 640	64 918	88 906	16 478	1.22	1373
8.	China	1 043 131	1 018 423	1 094 503	768 786	1.05	1333
9.	Italy	155 258	137 096	17 015	54 453	1.10	1333
10.	Japan	134358	124330	102180	26579	0.76	1301

– **The medium** – in recent years, due to digitalization and rapid access to knowledge and information, current trends have led to a shrinking market for print publications and a dramatic increase in the number of digital editions. This, along with the use of artificial intelligence (Pacheva 2024), is the main challenge for the global publishing industry (Ganchev 2024). Digital technologies offer a broader range of possibilities compared to traditional publishing and new opportunities for the rapid dissemination of scientific knowledge, such as access to “preprints”.

3. Business Models in Academic Publishing

The complex academic publishing ecosystem allows publishers to use different business models that seek a balance between providing access to scientific knowledge and profit and are based on various strategies for competitive advantage (Tsankova 2024). The strategic management of intellectual property (Strijlev 2024) is central to the profitability of academic publishing and directly influences the accessibility and dissemination of knowledge.

3.1. Traditional Publishing Business Model

It is based on the traditional business model in the publishing industry and intellectual property management through the sale of publishing products: monographs, books, textbooks, and magazines, with authors sometimes receiving remuneration

or royalties. This model is gradually losing its influence with the increasing prevalence of digital and online publications.

3.2. Traditional Subscription Model

It is based on intellectual property management strategies for limited access to the content for audiences who pay for subscriptions. Authors transfer exclusive rights to the publishers. Due to firm organizational intellectual rights policy (Papagalska 2024), most contracts include restrictions on reuse or republication, though the timeframes can vary. Publishers provide paid access to scientific publications and databases. Under this business model, access to scientific knowledge and research results is restricted. The subscription fees for access to the publications are paid by governments, universities, libraries, companies, and individual users.

3.3. Open Access

The business model of Open Access is based on Article Processing Charges (APCs), paid by authors or their institutions. Trends indicate a significant increase in revenue for publishers through this model, with various analyses over the past five years showing a 10 – 15% annual growth in profits in the Open Access sector. Open Access sales reached \$1.9 billion in 2023 and \$2.1 billion in 2024, up from \$1.8 billion in 2022 and are expected to grow to \$3.2 billion by 2028⁶. The Open Access model is aimed at the end-user of the content – the reader, who has free access to publications. Authors or funding organizations pay APCs to sustain Open Access, enabling free access to content. This is facilitated through the use of Creative Commons licenses to manage copyrights, sharing, and use of scientific publications. Scientific results are disseminated rapidly, leading to higher citation rates and greater impact of publications, journals, and authors. There are several types of open-access models:

– **Gold Open Access.** All publications are freely available online, made possible through the payment of APCs.

– **Green Open Access.** Authors can share their publications in repositories and online after a so-called “embargo period”. No APCs are required.

– **Diamond (Platinum) Open Access.** All publications are freely available online without requiring APC payments.

– **Hybrid Open Access.** This model combines subscription-based access with the option for Open Access. Authors who want their publications to be openly accessible pay APCs.

3.4. Conference-funded Publishing Model

Event-based approach to scientific communication and facilitation of international contacts through digitalization (Takov 2024). A collaboration between the organization of scientific conferences and publishing activities through proceedings, where conference papers are published and funded by participation fees. This model ensures the rapid dissemination of new scientific results.

Table 2. Top 10 scientific journals by h5-index (Google Scholar metrics), 2024

Academic Journal	Publisher	h5-index	Publishing Model	Article Processing Charge (APC)
Nature	Nature Publishing Group	488	Hybrid publishing model (subscription-based with open access option)	\$12 690
IEEE/CVF Conference on Computer Vision and Pattern Recognition	IEEE/CVF Conference	440	Conference-funded model	No
IEEE Access	Institute of Electrical and Electronics Engineers	227	Gold Open Access	\$2075
The New England Journal of Medicine	Massachusetts Medical Society	434	Hybrid publishing model (subscription-based with open access option)	No
Science	American Association for the Advancement of Science	409	Traditional subscription model, Science Advances as Gold Open Access	\$5450 (Science Advances, open access only journal)
Nature Communications	Nature Publishing Group	375	Gold Open Access	\$6990
The Lancet	Elsevier	368	Subscription-based, optional open-access fee	\$7170
Neural Information Processing Systems	NeurIPS Foundation	337	Conference-funded model	No
Advanced Materials	Wiley	327	Hybrid publishing model (subscription-based with open access option)	\$6070
Cell	Cell Press (Elsevier)	320	Hybrid publishing model (subscription-based with open access option)	\$10 400
International Conference on Learning Representations	OpenReview.net	304	Conference-funded model	No
JAMA	American Medical Association	298	Hybrid publishing model (subscription-based with open access option)	\$3000

Table 2 represents the analysis of business models employed by the publishers of the top 10 academic journals ranked by “h5-index” in 2024 (*Google Scholar metrics*) and the APCs paid by authors in cases of open access to publications.

4. Academic Publishing and Open Science

Academic publishing contributes to the visibility of universities’ and scholars’ scientific and research activities, serving as a key element for presenting scientific results to the academic community and businesses. Academic publishing is based on the publication and dissemination of works protected by copyright, some of which hold the potential for developing new products, services, and technologies. Innovations and technological progress are created through the management and commercialization of intellectual property (Aleksandrov 2024). Academic publications act as a “portfolio” of scientific results to reach external stakeholders, including other universities, governments, and businesses.

The Open Science initiative aims to improve access, transparency and collaboration in scientific research. Open Science refers to initiatives aiming to open up nearly every component or single item within research and scientific workflows, including Open Review, Open Metrics, Open Access to scientific data and publications, and Open Bibliography. These initiatives promote free and transparent access to scientific information and foster reproducibility, collaboration, and innovation (Fecher & Friesike 2014).

The COVID-19 pandemic demonstrated how Open Access to scientific publications is critical in accelerating the exchange of scientific information and results. This was achieved through the united efforts and measures of the scientific community, governments, international organizations, and publishers. Publishers removed paywalls for scientific publications related to COVID-19 and the scientific results linked to vaccine development, while the peer-review process for publications was expedited. The creation of open databases and global scientific exchange proved to be a key factor in addressing the unprecedented global pandemic.

The free exchange of scientific information through Open Access and Open Science creates better conditions for transferring intellectual property in science, fostering innovation and technological progress.

Conclusion

The business aspects of academic publishing reveal the exceptional added value of scientific content, which becomes a highly profitable asset through intellectual property management strategies. The profitability of the academic publishing business is driven by management strategies that rely on business models where access to scientific knowledge and results is key to the competitiveness and development of a wide range of stakeholders. The rapid adaptability of the publishing industry to digitalization and new technological opportunities ensures ongoing potential for market expansion.

However, the challenge for academic publishing is to strike a balance in fulfilling the primary purpose of science in the interest of technological progress by adopting business models that enable timely and open access to scientific results, facilitating the rapid transfer of intellectual property and the implementation of innovations.

NOTES

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