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Open-Access Publishing in Tourism and Hospitality Research

Abstract

This paper examines various models of academic publishing and considers their relative advantages for authors, readers, academic institutions and society. Relevant factors driving authors' choice of the journal include the journal's scope, reputation and publishing model used. Authors' choices are shaped by the expectations of academic institutions and strongly determine both access to readers and the benefits to society. From an analysis of 174 journals in the tourism and hospitality field, four publication models are identified and compared: 'subscription-only' and the 'Green', 'Gold' and 'Platinum' open-access models. The findings of a survey of 42 editors of journals in the field are then presented. These suggest that subscription-based journals (subscription-only or hybrid) tend to be owned by commercial publishing companies and have the highest reputation, as measured by their position in one or more indexing systems. They also tend to have significantly larger paper submissions than open-access journals, especially those that use the Platinum open-access model. While some commentators have suggested that editors of open-access journals with article-processing charges may be tempted to lower their scientific standards to maximize revenues, no evidence was found that such journals have higher acceptance rates than their subscription-based equivalents.

Keywords: open access, journal, tourism research, ranking, impact factor

1. Introduction

While learned societies mainly published the earliest academic journals, commercial publishing companies have long been active (Fyfe et al., 2017), resulting in the commodification of theoretical knowledge (Hall & Page, 2015). Large commercial publishers started to dominate the publishing landscape by selling access to articles by purchasing single pieces or subscriptions to individual journals and journal packages. Commentators such as Tennant et al. (2016) argue that only a small percentage of interested readers can access it. Only those with access to an institutional library that subscribed to the publication or can afford to pay for individual access can benefit from the knowledge embodied in its papers. Sharp inequalities in access to expertise exist as a result, both within societies and globally (Fuchs & Sandoval, 2013).

The so-called 'open-access movement' (Suber, 2012) has attempted to change this situation. Proponents argued that free access to academic journals would minimize inequalities and democratize knowledge to

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benefit everyone (Verschraegen & Schiltz, 2007). Publishing open access (O.A.) can accelerate the research process, increase dissemination and citations, empower academics and promote dialogue (Björk, 2017b; Suher, 2012). While many subscription publishers have adopted the concept of O.A., for example, by making some of their journals into 'hybrid journals' by the addition of 'Green' and 'Gold' O.A. options, most were slow to embrace it. This resulted in several independent O.A. journals being developed to fill the gap. While some of this new breed of O.A. journals were made accessible to readers and authors, others were made free to readers but charged authors an article-processing charge (APC) on the publication of their paper. The latter practice appears superficially similar to the method of 'predatory journals', which publish articles for a fee without proper peer review and editorial decision-making having first taken place. This has resulted in much confusion and controversy about O.A. journals with APCs.

Within the field of tourism and hospitality, the number of journals that provide O.A. publishing options has increased considerably over the past 20 years. This number is only expected to increase (Kozak, 2020; McKercher, 2020). This threatens, in several ways, the traditional business models used in academic publishing. This paper aims to critically evaluate the implications of this fundamental shift to O.A. publishing for the tourism and hospitality field. This paper examines the various models of academic publishing and considers their relative advantages and disadvantages for the authors, readers, academic institutions and society. It also analyses the number of submissions and acceptance rates in journals that employ these various publishing models in tourism and hospitality. This will enable potential authors and funders to evaluate better the O.A. publishing landscape in tourism and hospitality and to make better-informed decisions about publishing and funding O.A. research. The paper will also explore the proposition, often made but untested to date, that O.A. journals with APCs are little more than predatory journals, operating with low academic standards and high acceptance rates in the interests of profit maximization.

The issues considered in this study are essential for tourism and hospitality scholars for several reasons. Firstly, the quality of research in tourism and hospitality has increased in the last 20 years, which has helped bring tourism and hospitality to maturity as a field of study and advanced the industry's professionalization (Jafari, 2001). This has been assisted by increasing international collaboration between researchers from different disciplines (Wong et al., 2021).

Secondly, and related to this, scholars are finding it increasingly difficult to decide where best to submit their work (Ferreira et al., 1994). Academic prestige tends to be associated with publishing in long-established, usually subscription-based journals (Fyfe et al., 2017). In addition, many universities now include the publication of high-impact journal papers in their annual performance review and promotion systems (Resnik, 2007; Radder, 2010). Journal-level metrics (such as Impact Factors or CiteScores) tend to be perceived as an indicator of the quality of the papers published therein (Owlia et al., 2011). The number of publications in journals indexed in databases such as Scopus and / or Web of Science is often also included as a criterion in university rankings (e.g. the Times Higher Education ranking, Shanghai ranking, Q.S., etc.). Indeed, the term 'publish or perish' has frequently been used to sum up in which many academics now find themselves (Miller et al., 2011; Hall, 2011). The proliferation of academic journals makes it difficult for academics to choose the best option for publishing their work (Björk, 2017a).

Thirdly, there is a growing trend for public research-funding organizations to require that research receiving their funding be published in O.A. format. Many institutions need O.A. publication or online, free-access research output (Björk et al., 2014; Melero et al., 2018). The justification is that the public has funded the research outputs, so they should be accessible to everyone. For instance, the O.A. mandate for the E.U.'s Horizon 2020 Programme (2014-2020) established that all resulting peer-reviewed publications should be published in O.A. format (available online, free of charge, and without restrictions) (European Commission, 2020). More recently, Coalition S, formed by various research funding organizations with the support of the

European Commission and the European Research Council, raised its members' exact O.A. requirements for research funding (Coalition S, 2019).

It is important to note that no single O.A. publishing model exists, with many variants already used worldwide and new ones constantly introduced (Fyfe et al., 2017). Academics, institutions and publishers are challenged to understand the relative merits of the different O.A. publishing models (Shen, 2020). When analyzing the movement's future, O.A. initiatives and best practices must be considered (Mering & Hoeve, 2020).

2. Literature review

2.1. Research knowledge as a public good

Public goods are those whose consumption by some individuals does not prevent consumption simultaneously by others (Verschraegen & Schiltz, 2007). Stiglitz (1999a) argues that knowledge is a global public good and vital for societies' successful development and transformation. Global crises such as the Covid-19 pandemic have shown how vital the democratization of knowledge is when seeking global solutions for global issues (Barbour & Borchert, 2020; Chan et al., 2020).

Stiglitz (1999b) also points out that knowledge is synonymous with power. This can include the ability to make free and effective decisions, the power to predict and/or influence situations, the power to achieve development and growth, and the power of choice. Inequalities are bound to ensue when a small number of people and/or organizations monopolize that power. Reducing that power, meanwhile, can help address such disparities. Sharing knowledge on an O.A. basis can thus help promote the inclusion of everyone in the global society, especially those in less-developed countries (James, 2017; Verschraegen & Schiltz, 2007). In many of the world's poorer countries, universities and research centres cannot afford to purchase journal subscriptions. However, Tennant et al. (2016) argue that access to knowledge is a human right, and O.A. can help guarantee it. Wider adoption of the O.A. publishing model may help to end the reproduction of alleged academic colonialism of the developed world over the less-developed countries, transforming the educational system worldwide (Chan et al., 2011; Sengupta, 2021).

2.2. Models of academic publishing

As noted above, several different models of academic publication are in use (Fyfe et al., 2017). Their main features are summarised in Table 1 and are elaborated below.

2.2.1. *Subscription-only journals*

Until the beginning of the 2010s, most academic journals followed a subscription-only model. This means that the authors do not pay to publish their work, although it does require them to transfer the copyright of their work to the publishers (Forgues & Liarte, 2013). The publishers then cover all the costs of publication. This model is, therefore, attractive for researchers as it does not involve any direct payment from their side (Schroter & Tite, 2006). Institutions do, however, have to subscribe to the journals, often in packages, for their employees, members and/or customers (e.g., students) to be able to read their content.

Some scholars have questioned the subscription model on ethical grounds. Cirasella (2013), for example, argued that publishers often act like knowledge-managing octopuses: they obtain articles from scholars for free; other researchers review those papers for free; authors hand over their copyright to publishers for free; and universities, institutions, and researchers then pay fees for access to those very papers. From a financial point of view, the publishers receive the revenues while transferring the research and the review process costs to the authors and their institutions. From a knowledge-sharing perspective, the content of the papers is held behind a paywall and not accessible to everyone. Only readers and institutions who can afford the

subscription/purchase fees can access the content (Allahar & Sookram, 2020; McGuigan & Russell, 2008). While the subscription model is justifiable for the financial need to offset the publishing costs through the proceeds obtained from the readers and their institutions, it raises thus ethical issues in terms of the accessibility of knowledge and research output (Willinsky & Alperin, 2011). This is particularly evident when public organizations have funded the research.

Table 1
Publication modes

Publishing mode	Authors	Readers	Editors and reviewers	Selected examples
Subscription-only journals (no green or gold)	Authors pay nothing Readership is mainly limited to journal subscribers or those making a one-off payment for access Permission required from publisher for reuse Slower speed-to-print	Readers or their institutions pay an institutional package subscription ¹ Or Readers or their institutions pay for individual paper access ¹ Or Readers approach author for pre-print copy ² Or Readers download the pre-print copy from Research Gate3 or similar ⁴	Editors are often paid a small honorarium for their time (may be in the form of expenses) Editors and editorial members often receive free access to the journal The costs of running the journal are borne by the publisher Reviewers may receive rewards, e.g. time-limited access to databases, discounted download purchases	✓ International Journal of Hospitality and Tourism Systems ✓ Journal of Tourism Challenges and Trends
Subscription "hybrid" journals: "Green" route	Authors pay nothing for "Green" open access Readership is mainly limited to journal subscribers or those making a one-off payment for access until the embargo has expired Permission is required from the publisher for reuse until the embargo has expired Slower speed-to-print	Readers or their institutions pay an institutional package subscription ¹ Or Readers or their institutions pay for individual paper access ¹ Or Readers approach author for pre-print copy ² Or Readers can download the pre-print copy from Research Gate3 or similar ⁴	Editors are often paid a small honorarium for their time (may be in the form of expenses) Editors and editorial members often receive free access to the journal The costs of running the journal are borne by the publisher Reviewers may receive rewards, e.g. time-limited access to databases, discounted download purchases	✓ Tourism Management ✓ Annals of Tourism Research
Subscription "hybrid" journals: "Gold" open access	Authors, their institutions or their research funders pay for "Gold" open access ^{1, 6} Universal readership No embargo period Free reuse by all Low speed-to-print	Pay nothing for the open-access paper but see above for accessing those papers that remain outside the "Green" open-access	Editors are often paid a small honorarium for their time (may be in the form of expenses) Editors and editorial members often receive free access to the journal The costs of running the journal are borne by the publisher Reviewers may receive rewards, e.g. time-limited access to databases, discounted download purchases	✓ Tourism Management ✓ Annals of Tourism Research
Open access with APCs: "Gold" open access	Pay APCs ^{1, 7} Universal readership No embargo period Free reuse by all subject to the terms of the specific license Faster speed-to-print Risk of it being a "predatory" journal	Pay nothing	Editors might be paid a small honorarium for their time (may be in the form of expenses) The costs of running the journal are borne by the publisher Reviewers may receive discounts on APCs for future article publications	✓ Tourism and Hospitality (MDPI)

Table 1 (continued)

Open access with no APCs: "Platinum" open access	Pay nothing Universal readership No embargo period Free reuse by all subject to the terms of the specific license	Pay nothing	Editors might be paid a small honorarium for their time (may be in the form of expenses) The costs of running the journal are entirely borne by the editor(s), their institution(s) and/or any sponsors ⁵ Reviewers are not usually rewarded	✓ European Journal of Tourism Research ✓ Tourism: An International Interdisciplinary Journal
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¹ Rates may be discounted for authors/institutions from low-income countries.

² The pre-print copy will not be paginated, so the reader cannot quote directly from it. There will also likely to be a delay for the reader to find out whether the author is willing/able to send this pre-print version, as well as in the request being made and the paper being sent. Some authors will not reply (for example if they are retired/deceased, too busy or cannot be bothered). This situation persists until any embargo has expired (typically 12, 24 or 36 months).

³ Maintaining a comprehensive RG profile requires a great deal of personal effort from authors. The pre-print copy will not be paginated, so the reader cannot quote from it. The paper may be available immediately but there could be a delay if the reader must make a request. Some papers will never be available, for example, if the pre-print version has been lost or if the author has retired (or deceased).

⁴ The paper may not be uploaded. It may be indicated that it is available on request, in which case the situation reverts to note 2.

⁵ For example, learned societies.

⁶ Some research funders (e.g. UKRI, "Coalition S" members) now require funding recipients to publish open access and will provide funding for authors to do this.

⁷ APCs may be partially or wholly waived for editors and/or editorial board members (perhaps limited to one paper each year).

2.2.2. Hybrid and OA journals

The term 'open access' was first used in 2002 in the Budapest Declaration (Budapest Open Access Initiative, 2002). This initiative promotes free access for readers to peer-reviewed academic publications (Suber, 2012) without access restrictions or economic barriers, allowing them to be read, downloaded, copied, distributed, printed, searched and permanently accessed (Swan, 2012). Chisvert and Monteagudo (2013) suggest that academic publication is undergoing a significant shift towards O.A. and that, as a result, knowledge will be accessible to everyone and preserved in the long term. However, OA does not mean 'free forever' because some O.A. journals have already ceased to operate and no longer host access to the papers they published (Laakso et al., 2021).

Authors who want to publish in O.A. format have several options (see Table 1): to publish in a completely O.A. journal that does not charge a fee ('Platinum' O.A.), to publish in an O.A. journal that requires the payment of an APC ('Gold' O.A.), to publish O.A. in a hybrid journal by paying a fee ('Gold' O.A.), or to publish in a hybrid journal allowing O.A. publication in institutional repositories ('Green' O.A.) (Björk et al., 2014; Goodman, 2004; Harnad et al., 2004; Kingsley, 2014; Melero & Abad García, 2008; Zhang & Watson, 2017). Platinum OA is the most attractive option to both authors and readers from a financial point of view because neither pays: all the costs are covered by the journal publisher. In addition, this type of O.A. best reflects knowledge as a public good because it does not raise any financial barriers to research dissemination.

The Gold OA route requires the payment of a publication fee. It is offered by both OA-only journals and hybrid journals. The APC can be paid by the author, institution, or research funder. Hybrid journals combine the characteristics of O.A. journals and subscription-based journals (Fernández Pinto, 2020). They publish O.A. articles and articles accessible only to subscribers, either permanently or during an embargo period (Kingsley, 2014; Luchilo, 2019; Zhang & Watson, 2017). This is when so-called 'double dipping' occurs. Publishers receive double financial compensation for the same content: from the author (who pays to publish the O.A. article) and from the subscriber (who pays for the journal's access anyway). In recent years, the number of hybrid journals has grown (Björk, 2017c). Many commentators believe, however, that this model will probably remain marginal due to the high prices that authors, their institutions or research funders must pay for Gold OA (Björk, 2012). In support of this claim, and in line with Coalition S (2019) recommendations, some publishers recently introduced 'transformative journals': subscription or hybrid journals committed to becoming fully O.A. journals.

The Green OA route enables authors to publish some versions of their papers in their institutional repositories (Phillips, 2014). These collect, store, organize, preserve and distribute digital resources in O.A. format (Nicholas et al., 2012; Paul, 2012). The main objective of these repositories, which are managed by universities, libraries, or other institutions, is to ensure long-term and free access to digital resources (Prieto, 2009). It should be noted that the paper's final, edited and laid-out version in a subscription-only or hybrid journal cannot be included immediately in a repository: only the pre-print version can be uploaded there. However, the final version can be included in a repository with free access after the embargo period (usually between 12 and 36 months) has expired (Luchilo, 2019). No such limitations exist for O.A. articles published in hybrid and OA-only journals.

2.3. Advantages and disadvantages of subscription-only journals

2.3.1. Possible advantages of subscription-only journals

As mentioned earlier, many academic journals followed this traditional publishing model, which has contributed to the field's maturity. However, this model does not generally directly impact authors in financial terms. This is because institutions typically pay for the subscription and journal access (Schroter & Tite, 2006). For authors working in institutions with resources, this publishing model seems frictionless.

From a quality perspective, subscription-only journals are forced to ensure the high quality of their product (the published articles) because institutions will subscribe only (or mostly) to journals that offer the highest-quality content. Moreover, most of these journals appear in top rankings, such as JCR or Scopus and are well-known journals. This influences researchers' decisions on where to publish. Many are forced to publish in journals with these rankings to be promoted or recognized or to obtain future research funding.

2.3.2. Possible disadvantages of subscription-only journals

The most significant disadvantage of subscription-only journals is that although authors do not pay for publishing their papers, they transfer their copyright to the publishers and consequently lose control of their intellectual property (Forgues & Liarte, 2013). Additionally, from an institutional perspective, some institutions have found themselves effectively trapped in long-term subscription packages (known as 'Big Deals'). The specific package offered access to a broader array of journals than they required without a means of 'de-bundling' them to receive only those they needed at a lower price (Edlin & Rubinfield, 2005). This oligopolistic situation was further magnified when the large publication houses began to buy up independent titles and the portfolios of smaller publishers (Larivière et al., 2015). At the same time, institutions are under pressure from their staff, members and customers to maintain access to as many journals as possible to facilitate wide reading and greater knowledge discovery. Therefore, some creators and users of knowledge began to question the efficacy of the subscription model of publication. Over time, subscription prices tend to increase while library budgets have been squeezed. Although lower subscription fees and packages are often offered to institutions with exceptional circumstances or from low-income countries, subscription-only journals privatize knowledge that should properly be treated as a public good (Chan & Costa, 2005).

2.4. Advantages and disadvantages of OA publishing

2.4.1. Possible advantages of the OA model

One of the significant advantages of the O.A. model is the greater speed of publication that can be achieved (Björk et al., 2014). O.A. publishers tend to employ different working practices to traditional subscription journals, which shorten the time between initial submission and eventual publication. This includes, among other things, using in-house staff to assist editors in inviting reviewers and making timely decisions on papers. By shortening the time to publication, the O.A. model benefits authors, who are increasingly required to

show evidence of their work for a periodic progress review, establishing tenure, promotion applications, pay review, etc. Immediate access to scholarly knowledge also saves time and money by facilitating the work of researchers (Björk, 2017a). It also benefits society in that potential knowledge users get quicker access to the latest research findings (Bhat, 2010; Björk et al., 2014). The OA model is thereby said to stimulate innovation and accelerate discoveries that positively impact human progress (Tickell, 2016).

O.A. publishing can help scholars to increase their research impact (Antelman, 2004, Peroni et al., 2015), accelerate their research (Bhat, 2010) and enhance its visibility (Chisvert & Monteagudo, 2013). O.A. allows a more significant number of researchers worldwide to have access to knowledge without undue restriction. Consequently, the potential for O.A. papers to be used and cited increases, which in turn increases their impact (Dawson & Yang, 2016). The literature refers to this as an O.A. citation advantage (Antelman, 2004; Piwowar et al., 2018). O.A. also makes it easier for authors to retain copyright ownership without transferring these rights to publishers (Seadle, 2005). They provide researchers with a fairer way of publishing (Koutras, 2020).

O.A. may also be considered to benefit institutions, preserving content with a permanent link to it. Furthermore, OA allows authors and institutions to comply with the mandates of funding agencies, guaranteeing the long-term preservation of the results (Piwowar et al., 2018). Finally, the O.A. route contributes to transparency in the use of public funds (Dawson & Yang, 2016). As a result, institutions increase their scientific production's visibility, positioning, and reputation (Ferreras-Fernández et al., 2013; Furnival & Hubbard, 2011).

The OA publisher has also been in the vanguard of other aspects of open publishing. For instance, some have embraced and promoted initiatives such as including reviewer reports alongside published papers and the ability of readers to comment on the paper (Garrod, 2022) publicly. This allows those who feel that corners have been cut in the review process to draw public attention to this. The subscription-based journals have been notably slower to expose themselves to such public scrutiny.

2.4.2. Possible disadvantages of the OA model

It has also been argued that the O.A. model has a darker side. The main issues stem from the business models of O.A. journals that charge authors. O.A. publishers tend to justify the use of APCs with the argument that because the readers do not pay to access the articles, the authors (or their institutions) need to cover the expenses related to the publication (including the review process, marketing, typesetting, online platform, indexing, DOI allocation, etc.). Some commentators argue that such justifications are invalid (Siler & Frenken, 2020). For instance, the review process does not serve the interests of the authors. Still, for publishers (by identifying papers with scientific merit that will attract readers and revenues), many platforms are free of charge (e.g. OJS). In addition, the costs of indexing the journal articles are covered by the owners of the index databases (Scopus, Web of Science), not by the publishers. While these points can be debated (for example, it can be argued that authors often benefit from the comments and suggestions received when their papers are reviewed), they raise important questions about the high APCs charged by some O.A. publishers.

Another alleged disadvantage of the O.A. model when APCs are involved is that charging for publication is a financial barrier (financial censorship) to research. Only authors from institutions that can afford to pay the fee will have their research published (Allahar & Sookram, 2020). Some publishers (e.g. Elsevier, Taylor and Francis, Wiley) attempt to mitigate this issue by offering discounts or complete waivers on the APCs for authors from low-income countries, including through the Research4Life program (Research4Life, 2022). Others allow editors, editorial board members, editors of particular issues and authors of invited papers to publish for free. For example MDPI's *Tourism and Hospitality* enables guest editors to invite authors to submit feature papers and waive accepted papers' APCs following review. APCs are also often waived or decreased for shorter papers such as research notes, comment papers, and so on (e.g., F1000Research, Frontiers). In

addition, many O.A. journals offer vouchers to reviewers that can be exchanged for the partial or complete payment of an APC. Even so, a financial barrier inevitably still exists for some authors.

It has been argued that charging authors present editors of such O.A. journals with a dilemma: accept a paper, even with low quality, and generate revenue for the publisher, or reject the article and not generate revenue for the publisher. This has led to some commentators equating all O.A. journals to 'predatory journals' that will publish almost any paper as long as the author is prepared to pay the APC (Economist, 2020). As Codina (2021) explains, predatory journals present specific characteristics: they may have poor-quality websites or false impact indexes; it may be challenging to locate previous editions; they may not appear in any recognized repository or database; they charge authors for publishing in them. However, this allegation that O.A. journals are essentially predatory is fundamentally untrue. First, not all O.A. journals charge APCs. Second, both subscription-based journals and O.A. journals have to deal with the problem of quality control, which is not an exclusive issue for O.A. journals. Third, subscription-based journals may have problems ensuring quality and scientific rigour. It was demonstrated in a recent exercise in which three authors submitted 20 papers to established journals that they had written specifically to use fashionable terminology but were worthless in terms of their academic content: seven were accepted (Pluckrose et al., 2021). Moreover, it has been found that even the most reputable indexes (such as Scopus) have been accepting large numbers of predatory journals (Chawla, 2021).

Nevertheless, the assertion that all O.A. journals that charge APCs equate to predatory journals persists. One argument is that while editors and publishers often publicly claim that there is no relationship between the editorial decisions and the financial matters of the journal as it should be (e.g., Elsevier, 2022), it is open to debate how long editors would keep their position in an O.A. journal that charge APCs if the number of accepted papers was very low due to a high rejection rate that reduces the flow of revenues to the publisher.

2.5. OA in hospitality and tourism research

While the number of papers and journals covering tourism and hospitality has been increasing year by year (Mulet-Forteza et al., 2019), the literature suggests we are still far from achieving a deep and critical knowledge of this field. Moreover, as in other disciplines, the pressure academics feel to publish harms the quantity, quality and creativity of research in the area (McKercher, 2018). Indeed, Tribe (2018) argues that the primary motivation of researchers should be to solve problems or expand knowledge instead of reaching a set number of publications in a select group of high-ranking journals.

It is important to note that the number of OA-based journals in tourism and hospitality is still deficient (Naumov, 2019). Pan (2012) suggests that researchers in tourism should adopt the O.A. model to accelerate the dissemination of tourism knowledge and reinforce tourism as a mature discipline. When analyzing the future of tourism publications, McKercher (2020) argues that the format and distribution of knowledge will inevitably continue to change. The OA model is here to stay and will keep transforming academic research and its dissemination, including in tourism and hospitality. It is argued, therefore, that researchers in this field should be active participants in the path to social equity and data democratization to solve common global issues (Gretzel et al., 2020). The OA model may thus be the future of tourism journals, with O.A. journals becoming the rule rather than the exception (McKercher, 2020).

3. Methodology

The data for this study were collected in two phases. The first took place between September and December 2020. Journals focusing on tourism and hospitality were identified using databases and web pages. An attempt has been made to inventory all journals with a web presence related to tourism and related disciplines (travel, transportation, accommodation, leisure, gastronomy). The databases consulted were CARHUS Plus +,

DIALNET, DOAJ, ERIH PLUS, ISSN Portal, LATINDEX, MIAR, REDALYC, RESH, ROAD, Scimago, Scopus, Web of Science, and EBSCO Hospitality & Tourism Complete. In addition, journals from the following categories were consulted: ‘Hospitality, Leisure, Sport & Tourism’ for JCR by Web of Science; and ‘Tourism, Leisure and Hospitality Management’ for Scopus. The initial list contained 259 journals. However, 85 journals were discarded for the following reasons: they were not scientific, their website was no longer active, they had ceased operation, they were not tourism-related, or they were potentially predatory journals appearing on Beall’s List or the Dolos List, leaving a final list of 174 journals presented in Appendix A.

A comparative analysis of the journals was then conducted covering the following topics: country of publisher, type of publisher (a commercial publisher, an academic or a governmental institution), publishing modes (Platinum OA journals, journals with Gold OA only, hybrid journals and subscription-only journals) and presence in indexing systems (JCR or Scopus) (see Table 2). In addition, each journal’s policies on self-archiving in institutional repositories and embargos were reviewed using information from the journal’s website as well as databases such as Sherpa/Romeo (for international journals), Dulcinea (for Spanish journals) and AURA (for Latin American journals).

Table 2
Variables considered for the comparative analysis

Publisher category	Academic institution The journal is published by a university Commercial The journal is published by a for-profit commercial publisher Governmental The journal is published by a government body	
Access	Publishing mode	Subscription-only journals Subscription journals that do not contemplate an option to publish in OA. Hybrid journals Subscription journals. Authors have the option to publish in OA upon payment (APC). If readers are not subscribed to the journal, they will only have access to OA papers of that journal. Open-access journals with Gold OA All content is published in open access but there is a charge for publishing in OA Platinum OA All content is published in open access and there is no charge for publishing in OA Green OA (Repository) Journals that allow publishing an article in an open access institutional repository, making it freely accessible (self-archiving) <ul style="list-style-type: none"> • Permitted Journals that allow the publication of the accepted version (post-print) in repositories immediately (no embargo period). • Not permitted Journals that do not allow publication in repositories • Embargo Subscription journals that allow publication in repositories after the embargo period specified by the publisher. • Not available Journals with no information available on whether it can be published in a repository
Rankings / Indexing systems	Impact metrics that evaluate the impact and relevance of scientific journals	JCR (Journal Citation Reports): Web of Science ranking (Clarivate Analytics). Q1, Q2, Q3, Q4 reflect the Quartiles (an indicator of the ranking position that a journal occupies in a specific area). Scopus : Scopus-indexed journal (Elsevier) Non-indexed : journals not included in the previous rankings

The second phase of data collection took place between June and July 2021. It included asking the editors of all 174 journals on the list to complete a short questionnaire regarding the number of submissions and acceptance rates for 2020. The questionnaire included only three questions – journal title, number of submissions in 2020 and acceptance rate in 2020. In total, 42 journal editors provided the requested statistics after two reminders (24.1% response rate). Cross-tabulation and Chi-square tests were used for data analysis.

4. Findings and discussion

The results show that over 50% of the journals analyzed are published in the United Kingdom (25.3%), the United States (17.2%), or Spain (9.8%) (see Appendix B). This finding agrees with Luchilo (2019), who suggests that publishers from the U.K., the U.S. and Europe dominate the global market of scientific journals. It can be argued that this is a hegemonic situation in which significant inequalities exist, particularly for those authors who want to publish in non-English language journals and those who are based in developing countries (Jorge & De Frutos, 2016). This is perhaps unsurprising given that non-English journals are under-represented in the most-reputed databases such as Web of Science and Scopus (Siler & Frenken, 2020).

With few exceptions, the leading academic publishers tend to be large commercial organizations such as Elsevier, Springer, Routledge, Sage, Emerald and Wiley. However, OA-only publishers such as MDPI now publish many titles, mainly in STEM subjects. In the sample collected for this study, there was an almost even split between journals operated by commercial publishers (49.4%) and those operated by universities/academic institutions (50%). In the tourism and hospitality field, therefore, there appears to be no predominance of commercial publishers over academic ones. Additionally, as will be seen shortly, many journals operated by non-commercial publishers seem to have a high reputation (Zhang et al., 2021).

Conditions and policies for self-archiving in institutional repositories vary considerably among journals. Many of those analyzed apply embargoes (for 12, 18, 24 or 36 months) for accepted or published versions. JCR and Scopus-indexed journals are significantly more likely to impose embargoes than non-indexed journals ($\chi^2=55.872$, $df=6$, $p<0.001$) (see Table 3). As a result, authors must wait some time to make their final works available to everyone in public repositories.

Table 3
Presence of journals in indexing systems and OA opportunities

	JCR					Scopus	Non-indexed	Chi-square (JCR total vs Scopus vs Non-indexed)
	Q1	Q2	Q3	Q4	TOTAL			
Type of access								$\chi^2=93.225$ (df=6, p<0.001)
Platinum OA journals	0	0	0	0	0	18	66	
Open-access journal with Gold OA	0	0	0	0	0	3	6	
Hybrid journals	11	6	5	4	26	57	9	
Subscription-only journals	1	1	1	0	3	9	6	
Green OA								$\chi^2=55.872$ (df=6, p<0.001)
Embargo	9	4	4	2	19	42	4	
Permitted	3	3	2	1	9	38	70	
Not permitted	0	0	0	0	0	2	4	
Not available	0	0	0	1	1	5	9	
Total	12	7	6	4	29	87	87	

4.1. Analysis by journal indexing

4.1.1. Analysis of JCR-indexed journals

Of the 174 journals analyzed, 29 are indexed in the JCR database (16.7%). Of the 29 journals in JCR, the most significant number is in Q1. It is essential to highlight that the 29 journals in JCR also appear in CiteScore. All the JCR journals are subscription-only or hybrid. As such, taking the Gold access route in these journals tends to be associated with high publishing fees (Siler & Frenken, 2020; Zhang et al., 2021). No full Platinum OA journals are indexed in JCR, so it is impossible to publish O.A. in a journal indexed in JCR without paying the associated APCs.

Regarding publication in repositories, most journals in JCR (65.5%) apply some embargo, especially the Q1 journals (nine out of 12 Q1 journals impose an embargo). Moreover, most journals prevent authors from publishing the accepted or post-print version in an institutional repository before the embargo period expires. The literature refers to this as 'delayed O.A.', typical in many other fields of study (Laakso & Björk, 2013).

4.1.2. Analysis of Scopus-indexed journals

Of the sample, 87 journals are in this indexing system (50%). Most of Scopus's tourism and hospitality journals are hybrid (57), while nine have restricted access. In addition, there are 18 fully O.A. journals without APCs and three with O.A. requiring APCs. There are, therefore, more possibilities to publish papers on an O.A. basis in Scopus-indexed journals than in JCR journals. Regarding publication in repositories, 48.3% apply embargo periods ranging from 12 to 36 months. However, many journals in Scopus allow the publication of accepted versions in institutional repositories, while a few journals even allow published versions to be included in repositories.

4.1.3. Analysis of non-indexed journals

Eighty-seven journals from the total sample (50%) do not appear in any of the two indexing systems. One of the most important aspects is that many journals are O.A. without publication fees, i.e. Platinum OA journals (66 journals). Just nine are hybrid journals, and six are with paid access. Finally, six journals offer O.A. with APCs. Thus, many journals provide O.A. possibilities with and without charge. Moreover, most are operated by academic institutions (80.5%), with only a few from commercial publishers (17.2%). One is government-owned. These results are very different from the previous analyses of journals in JCR and Scopus, with a predominance of hybrid journals and commercial publishers. All but three of these journals permit publication in institutional repositories. Only 4.6% of the journals apply embargo periods.

4.2. Analysis by journal ownership

Table 4 presents the types of access by journal ownership. The findings support previous studies (Björk et al., 2014; Luchilo, 2019; Van Noorden, 2013) and reveal that the great majority of journals published by academic institutions (e.g., universities, research societies and associations): seventy-nine out of 88 journals (89.77%) provide Platinum OA. At the same time, 70 out of 85 commercial journals (82.35%) are hybrid or require payment for Gold OA. The difference between the types of access by journal publishers is statistically significant ($\chi^2=142.409$, $df=6$, $p<0.001$). This result is expected because commercial publishers rely on APCs to sustain their operations. Therefore, revenue from the journals (APCs, subscriptions, sales of individual articles) is their primary source of revenue. In contrast, academic institutions do not rely on journal revenue and get their income elsewhere (e.g., membership, research funding, student tuition fees, government subsidies, etc.). Furthermore, Table 4 indicates that academic institutions are more likely to perceive knowledge as a public good and therefore do not charge the creators and the users of knowledge. At the same time, commercial publishers adopt a more marketing-based and financial perspective, considering journals to be a product that generates revenue.

Table 4
Types of access by journal publisher

		Journal publisher			Total
		Academic institution	Commercial publisher	Government	
Type of access	Platinum OA journals	79	4	0	83
	Open-access journal with Gold OA	4	5	0	9
	Hybrid journals	3	65	0	68
	Subscription-only journals	2	11	1	14
Total		88	85	1	174

Note. $\chi^2=142.409$ ($df=6$, $p<0.001$).

4.3. Analysis by country of registration of the publisher

Appendix C presents the distribution of journals by publishing mode and by country of registration of the publisher. The results reveal that nearly all of the hybrid journals are published by publishers in only three countries: the U.K., the USA and the Netherlands (66 out of 68 hybrid journals). Considering the hegemony of the English language in academic publishing (Bitetti & Ferreras, 2017), the traditions of these countries in commercial publishing, and the country of registration of the major publishers (e.g. Elsevier, Taylor and Francis, Emerald, SAGE, Wiley), this result is not surprising. In contrast, Platinum OA journals have a much broader geographic scope of their publishers, including Spain, Brazil, Eastern Europe, Latin America, and Asia. Hence, the Platinum OA seems to be a more global phenomenon, while the hybrid model is pushed mainly by publishers from three countries. The differences were statistically significant ($\chi^2=251.133$, $df=105$, $p<0.001$). Similar findings were reported by Laakso and Björk (2021) for business journals.

4.4. Analysis of submissions and acceptance rates by publishing mode

Tables 5 and 6 present the findings of the second phase of research, which considered the number of submissions and acceptance rates in 2020 for the 42 journals whose editors completed the questionnaire. As evident from Table 5, hybrid journals receive far more submissions than Platinum OA journals, and the difference in the distribution of the number of submissions by publishing mode is statistically significant ($\chi^2=25.396$, $df=12$, $p<0.05$). The reason might be that hybrid journals are former subscription-only journals well-established in the field and indexed in JCR and Scopus. In contrast, most Platinum OA journals are non-indexed journals with little value for authors and their institutions in promotion, university rankings and accreditations. Regarding acceptance rate, there are no statistically significant differences among the journals based on their publishing mode ($\chi^2=14.524$, $df=15$, $p>0.05$). In that sense, the results support the findings of previous studies that O.A. journals do not necessarily have higher acceptance rates (Björk, 2019).

Table 5
Number of submissions in 2020 by publishing mode

		Publishing mode				Total
		Hybrid	Open-access journal with Gold OA	Platinum OA journals	Subscription-only journal	
Number of submissions in 2020	100 or fewer	2	1	11	2	16
	101-200	2	0	3	0	5
	201-500	4	0	5	1	10
	501-1,000	2	1	0	0	3
	1,001 or more	8	0	0	0	8
Total		18	2	19	3	42

Note. $\chi^2=25.396$ ($df=12$, $p<0.05$).

Table 6
Acceptance rates in 2020 by publishing mode

		Publishing mode				Total
		Hybrid (subscription with a paid option for open access)	Paid open access (with article processing charges)	Platinum open access (no subscription of author charges)	Subscription only	
Acceptance rate in 2020	10% or less	7	0	2	1	10
	11-20%	5	1	4	1	11
	21-30%	2	1	6	0	9
	31-40%	3	0	2	0	5
	41-50%	0	0	3	0	3
	More than 50%	1	0	2	1	4
Total		18	2	19	3	42

Note. $\chi^2=14.524$ ($df=15$, $p>0.05$).

5. Implications

Some implications emerged for authors, publishers, academic/research institutions and funders. For authors, maintaining the ownership rights of their intellectual properties may be challenging. Self-archiving and embargo policies of journals should be considered before deciding where to publish, considering the limitations and restrictions of many top-ranking journals. A few journals allow the publication of the accepted version in an institutional repository. Additionally, researchers must consider these embargo periods and restrictions before publishing their work on academic networks such as Mendeley, Academia.edu or ResearchGate to avoid copyright violations (Björk, 2017a; Luchilo, 2019).

The paper also revealed ample opportunities for publishing in high-impact journals without the payment of an APC using the Green OA. However, this would require the authors to adhere to some embargo rules. For example, suppose authors want or are required by their institutions to publish an O.A. publication in an indexed journal but do not have the financial resources to pay for the publications. Therefore, they can submit to any of the 18 Scopus-indexed journals with Platinum OA. Although none of these journals is included in the Journal Citation Reports (JCR), their content is indexed in Scopus and reaches a global audience. To ensure democratic access to knowledge, publishers should reduce embargo periods and incorporate flexible options to permit publication in institutional repositories. Promoting a broader geographic scope of publishers would also help break global inequalities in academic publishing (Bitetti & Ferreras, 2017). Finally, since O.A. journals are not significantly less selective than subscription-only journals, they are neither necessarily predatory nor predatory-like in their editorial decisions.

6. Conclusion

New technology and the Internet have fundamentally altered the world as we used to know it. They have provided people with immediate access to information and encouraged the free dissemination of information, data and knowledge. It has long been argued that the limitations and barriers associated with access to academic knowledge and its use and distribution will not persist much longer. Academic journals' principal aim must be producing and disseminating new knowledge and promoting international collaboration (Bashir et al., 2022). Indeed, the O.A. movement is gaining strength, and O.A. publishing models are now beginning to challenge the status quo. The academic community appears to be split on whether this will be welcomed, particularly in social science, humanities and the arts. The area of tourism and hospitality is no different in this respect. Some academics refuse to consider publishing O.A. as a matter of principle, while others are restricted because they feel they cannot justify the cost. Others are willing to consider O.A. publication, particularly given its advantages, but prefer the Platinum route that does not require APCs to be paid.

Academic institutions, meanwhile, find themselves on the horns of a dilemma. While many would wish to be able to cover the APCs for their staff members, they are simultaneously committed to paying substantial subscription fees to the commercial publishers for what is increasingly becoming online-only access. Moreover, these funds tend to sit in institutional library budgets, from which journal subscriptions have traditionally been paid, rather than in departmental budgets, where the individual members of staff who publish O.A. research and require funds to pay for APCs are usually located. Many academic institutions are therefore looking to public research grant funders to cover the costs of the O.A. publication of related research output. This is happening to some extent, albeit slowly. The difficulty for tourism and hospitality researchers, of course, is that a far smaller proportion of their research is externally funded, with much of the work being effectively funded by the researchers' institutions (or, perhaps more accurately, by researchers giving their own free time out of work hours to undertake the research). When this situation will shift, how quickly and in what direction remains to be seen. At present, there appears to be an impasse in this respect.

From the viewpoint of the individual researcher, the decision about where best to publish their work is becoming increasingly difficult due to the diversification of publication models. As this paper has demonstrated, there are at least four main modes – a subscription-only, hybrid, O.A. with APCs and fully O.A. journals, each with their own merits and demerits for the author, academic institutions, readers and society. Often the interests of the author and their institution do not entirely align. There is also great diversity within these categories. Thus, for example, researchers must choose between publishing in journals with high-impact factors included in one or more central indexing systems or publishing elsewhere and risking their achievements not being valued by the institutions they work for. For many academics, it is not just a ‘publish or perish’ case but publishing in the ‘best’ possible journals. Many ‘moving parts’ are in this decision, and the number of those parts is growing and interacting in new ways. This includes variables that determine the academic impact of the research, such as editorial policies for publishing in repositories, embargo periods, and so on, which affect whether it is best to choose the Green or Gold OA route. Using the Green route, researchers can publish in journals to include the accepted or published version in an institutional repository. Some journals allow researchers to post in repositories without embargo periods in the analyzed indexing systems. Using the Gold OA route, researchers can choose journals in rankings such as CiteScore that are O.A., some of which do not require payment of an APC charge.

The above decision-making logic is flawed because it encourages authors to publish their work in journals that are not well-suited to their topic. For example, many journals with high impact factors tend to have a more general scope (e.g. *Tourism Management*) than those with more specialist content (e.g. the *Journal of Heritage Tourism*). However, suppose authors are primarily concerned about the impact factor of the journal to which they submit their work. In that case, those working in the specialist area of heritage tourism may be discouraged from submitting it to (say) the *Journal of Heritage Tourism*, where it would be easier to find and contribute more readily to the research record of the sub-field. In the same way, an author may feel that they should submit their paper to a subscription-based journal even when it would be more logically placed in an O.A. one.

Whether those who assess the quality of papers published in O.A. journals, with or without APCs, as equivalent to those published in traditional journals is a further moot point; indeed, some argue that it is not the journal that matters but the paper. It is, of course, possible for good articles to be published in weak journals.

Another note is that while the Green OA route appears to be the best option to remove economic barriers to knowledge (Björk, 2017a), institutional repositories are still under-used (Borrego, 2017). Despite the different actions by universities and libraries, researchers still need more advice to tip the scales in favour of the Green route, overcoming the reluctance or fear of sharing and publishing in repositories (Björk, 2017a; Koutras, 2020). There are also certain dangers in ‘over-sharing’ on sharing sites such as Academia.edu or ResearchGate, including sharing post-print versions of papers published in subscription-only journals and still subject to embargoes. It represents an infringement of copyright and, while unlikely to result in the author’s prosecution, many would not consider it an ethical practice. However, the temptation to over-share can be great, as authors only naturally want their papers to be freely available. The difficulty is that they either do not want to or cannot afford to pay for that. The option of self-publication is always available, but the author would forego the advantages of credibility and discoverability associated with publishing in an academic journal.

The study reported in this paper found no evidence that O.A. journals have higher acceptance rates than subscription-only or hybrid journals. It suggests that those who associate O.A. publishing with predatory practices may have misjudged the intentions of O.A. journals in adopting the modus operandi they do. Ideally, all journals should be Platinum OA journals, but this raises the question of how the operating costs of such journals would be covered. Many of these journals seem funded by universities and edited by university staff members. However, this raises the question of editorial independence (if the editor was to retire, would that university appoint one from a rival university?) and the scale of operation at which such journals could potentially operate. If the journal is successful and operation costs become significant, will the sponsoring universities still support them?

The world of academic publication seemingly stands, therefore, at a crossroads. Unable to move one way or the other, the different publishing models operate side by side, jostling for ultimate victory by means of survival. One way to break the deadlock would be for universities to redesign their budgets to remove the separation between libraries and academic departments as paymasters. This could involve giving academics access to institutional funds to pay for O.A. publications. Another would be for government agencies, funding organisations and universities to redefine the criteria they use in academics promotion, accreditations and funding applications. It recognises publications in top-ranked journals and social research impact, dissemination, and citizen participation. Another critical factor in breaking the deadlock is for all participants to be willing to cooperate and value open-source tourism research – including practitioners, who generally ignore academic publications (Pan, 2012). Finally, the academic community should be among the first to act and promote the change (Bhat, 2010). As McKercher (2018) states, the current system must be transformed, with a new emphasis on O.A. and high-quality research. It should be aligned with the interests of researchers and the real needs of society instead of reducing research impact to simply a series of metrics.

The main limitation of the paper is the small sample size of journals whose editors completed the questionnaire. Future research may focus on the economic sustainability of the various publication modes for their publishers. In addition, the study could delve into the perceptions of journal editors and reviewers towards the different publication modes.

References

- Allahar, H., & Sookram, R. (2020). The adoption of open access journals for publishing management research: A review of the literature and the experience of the University of the West Indies. *International Journal of Education and Development using Information and Communication Technology*, 16(1), 126-146.
- Antelman, K. (2004). Do open-access articles have a greater research impact? *College & Research Libraries News*, 30(5), 372-382. <https://doi.org/10.5860/crl.65.5.372>
- Barbour, G., & Borchert, M. (2020). *Open science: After the COVID-19 pandemic there can be no return to closed working*. Australian Academy of Science. <https://www.science.org.au/curious/policy-features/open-science-after-covid-19-pandemic-there-can-be-no-return-closed-working>
- Bashir, A., Singh, R., & PS, S. (2022). Mapping the foundation and trends in tourism research: A bibliometric review of literature in tourism: An International Interdisciplinary Journal. *Tourism: An International Interdisciplinary Journal*, 70(3), 480-492. <https://doi.org/10.37741/t.70.3.10>
- Bhat, M. (2010). Open access repositories: A review. *Library Philosophy and Practice*, Article 356. <https://digitalcommons.unl.edu/libphilprac/356/>
- Bitetti M.S., & Ferreras J.A. (2017). Publish (in English) or perish: The effect on citation rate of using languages other than English in scientific publications. *Ambio: A Journal of Environment and Society*, 46(1), 121-127. <https://doi.org/10.1007/s13280-016-0820-7>
- Björk, B.-C. (2012). The hybrid model for open access publication of scholarly articles: A failed experiment? *Journal of the American Society for Information Science and Technology*, 63(8), 1496-1504. <https://doi.org/10.1002/asi.22709>
- Björk, B.-C., Laakso, M., Welling, P. & Paetau, P. (2014). Anatomy of green open access. *Journal of the American Society for Information Science and Technology*, 65(2), 237-250. <https://doi.org/10.1002/asi.22963>
- Björk, B.-C. (2017a). Open access to scientific articles: A review of benefits and challenges. *Internal and Emergency Medicine*, 12(2), 247-253. <https://doi.org/10.1007/s11739-017-1603-2>
- Björk, B.-C. (2017b). Gold, green, and black open access. *Learned Publishing*, 30(2), 173-175. <https://doi.org/10.1002/leap.1096>
- Björk, B.-C. (2017c). Growth of hybrid open access, 2009–2016. *PeerJ*, 5, Article e3878. <https://doi.org/10.7717/peerj.3878>
- Björk, B.-C. (2019). Acceptance rates of scholarly peer-reviewed journals: A literature survey. *El Profesional de la Información*, 28(4), Article e280407. <https://doi.org/10.3145/epi.2019.jul.07>

- Borrego, Á. (2017). Institutional repositories versus ResearchGate: The depositing habits of Spanish researchers, *Learned Publishing*, 30(3), 185-192. <https://doi.org/10.1002/leap.1099>
- Budapest Open Access Initiative. (2002). <https://www.budapestopenaccessinitiative.org/>
- Chan, L., & Costa, S. (2005). Participation in the global knowledge commons: Challenges and opportunities for research dissemination in developing countries. *New Library World*, 106(3/4), 141-163. <https://doi.org/10.1108/03074800510587354>
- Chan, L., Hall, B., Piron, F., Tandon, R., & Williams, W.L. (2020). *Open science beyond open access: For and with communities: A step towards the decolonization of knowledge*. The Canadian Commission for UNESCO's IdeaLab. <https://doi.org/10.5281/zenodo.3946773>
- Chan, L., Kirsop, B., & Arunachalam, S. (2011). Towards open and equitable access to research and knowledge for development. *PLoS Medicine*, 8(3), Article e1001016. <https://doi.org/10.1371/journal.pmed.1001016>
- Chawla, D.S. (2021, February 8). Hundreds of 'predatory' journals indexed on leading scholarly databases. *Nature*. <https://doi.org/10.1038/d41586-021-00239-0>
- Chisvert Perales, M., & Monteagudo Soto, M.J. (2013). Movimiento open access: Una primera aproximación cuantitativa a su impacto en las revistas de psicología en España [Open access movement: A first quantitative approach to its impact on psychology journals in Spain]. In *Foro, X. Internacional sobre la evaluación de la calidad de la investigación y de la educación superior (FECIES)*, 23-28 June, Granada. <http://doi.org/10.13140/RG.2.2.26754.32962>
- Cirasella, J. (2013). *Open access to scholarly literature: Which side are you on?* (CUNY Academic Works). https://academicworks.cuny.edu/gc_pubs/175/
- Coalition S. (2019). *Plan S: Principles and implementation*. <https://www.coalition-s.org/addendum-to-the-coalition-s-guidance-on-the-implementation-of-plan-s/principles-and-implementation/>
- Codina, L. (2021, January 14). *Nunca publiques aquí: Qué son las revistas depredadoras y cómo identificarlas* [Never post here: What are predatory magazines and how to identify them, message in a blog]. <https://www.lluiscodina.com/revistas-depredadoras/>
- Dawson, P.H. & Yang, S.Q. (2016). Institutional repositories, open access and copyright: What are the practices and implications? *Science & Technology Libraries*, 35(4), 279-294. <http://doi.org/10.1080/0194262X.2016.1224994>
- Economist. (2020, May 30). *How to spot dodgy academic journals*. <https://www.economist.com/graphic-detail/2020/05/30/how-to-spot-dodgy-academic-journals>
- Edlin, A.S., & Rubinfeld, D.L. (2005). The bundling of academic journals. *American Economic Review*, 95(2), 441-446. <http://doi.org/10.1257/000282805774669565>
- Elsevier. (2022). *Editorial independence*. <https://www.elsevier.com/about/policies/editorial-independence>
- European Commission. (2020). *Horizon 2020 programme (2014-2020)*. <https://ec.europa.eu/programmes/horizon2020/en>
- Fernández Pinto, M. (2020). Open Science for private interests? How the logic of open science contributes to the commercialization of research. *Frontiers in Research Metrics and Analytics*, 5, Article 588331. <https://doi.org/10.3389/frma.2020.588331>
- Ferreira, R.R., DeFranco, A.L., & Rappole, C.L. (1994). Rating the hospitality journals. *International Journal of Hospitality Management*, 13(3), 209-218. [https://doi.org/10.1016/0278-4319\(94\)90021-3](https://doi.org/10.1016/0278-4319(94)90021-3)
- Ferreras-Fernández, T., Merlo-Vega, J.A., & García-Peñalvo, F.J. (2013). Impact of scientific content in open access institutional repositories: A case study of the repository Gredos. In *Proceedings of the First international conference on technological ecosystem for enhancing multiculturality (TEEM '13)* (pp. 357-363). Association for Computing Machinery. <http://dx.doi.org/10.1145/2536536.2536590>
- Forgues, B., & Liarte, S. (2013). Academic publishing: Past and future. *M@nagement*, 16, 739-756. <https://doi.org/10.3917/mana.165.0739>
- Fuchs, C., & Sandoval, M. (2013). The diamond model of open access publishing: Why policy makers, scholars, universities, libraries, labour unions and the publishing world need to take non-commercial, non-profit open access serious. *Triple C: Communication, Capitalism & Critique*, 11(2), 428-443. <https://doi.org/10.31269/triplec.v11i2.502>

- Furnival, C., & Hubbard, B. (2011). Open access to scholarly communications: Advantages, policy and advocacy. In F-F. Martínez Arellano (Ed.). *Acceso abierto a la información en las bibliotecas académicas de América Latina y el Caribe* (pp. 101-120). Universidad Nacional Autónoma de México. https://ru.iibi.unam.mx/jspui/handle/IIBI_UNAM/CL581
- Fyfe, A., Coate, K., Curry, S., Lawson, Stuart, Moxham, N., & Røstvik, C.M. (2017). *Untangling academic publishing: A history of the relationship between commercial interests, academic prestige and the circulation of research* [Discussion paper]. The University of St Andrews. <https://doi.org/10.5281/zenodo.546100>
- Garrod, B. (2022). Open review: An invitation to participate in *Tourism and Hospitality*. *Tourism and Hospitality*, 3(1), 161-163. <https://doi.org/10.3390/tourhosp3010012>
- Goodman, D. (2004). The criteria for open access. *Serials Review*, 30(4), 258-270. <https://doi.org/10.1080/00987913.2004.10764921>
- Gretzel, U., Fuchs, M., Baggio, R., Hoepken, W., Law, R., Neidhardt, J., Pesonen, J., Zanker, M., & Xiang, Z. (2020). e-Tourism beyond COVID-19: A call for transformative research. *Information Technology & Tourism*, 22, 187-203. <https://doi.org/10.1007/s40558-020-00181-3>
- Hall, C.M. (2011). Publish and perish? Bibliometric analysis, journal ranking and the assessment of research quality in tourism. *Tourism Management*, 32(1), 16-27. <https://doi.org/10.1016/j.tourman.2010.07.001>
- Hall, C.M., & Page, S.J. (2015). Following the impact factor: Utilitarianism or academic compliance? *Tourism Management*, 51, 309-312. <https://doi.org/10.1016/j.tourman.2015.05.013>
- Harnad, S., Brody, T., Vallières, F., Carr, L., Hitchcock, S., Gingras, Y., Oppenheim, C., Stamerjohanns, H., & Hilf, E.R. (2004). The access/impact problem and the green and gold roads to open access. *Serials Review*, 30(4), 310-314. <https://doi.org/10.1080/00987913.2004.10764930>
- Jafari, J. (2001) The scientification of tourism. In V. Smith & M. Brent (Eds), *Hosts and guests revisited: Tourism issues of the 21st century* (pp. 28-41). Cognizant Communication.
- James, J-E. (2017). Free-to-publish, free-to-read, or both? Cost, equality of access, and integrity in science publishing. *Journal of the Association for Information Science and Technology*, 68(6), 1584-1589. <https://doi.org/10.1002/asi.23757>
- Jorge, A., & De Frutos, R. (2016). La evaluación de la investigación universitaria en España [The evaluation of university research in Spain]. Chasqui. *Revista Latinoamericana de Comunicación*, 133, 159-172. <https://doi.org/10.16921/chasqui.v0i133.2924>
- Kingsley, D.A. (2014). Paying for publication: Issues and challenges for research support services. *Australian Academic & Research Libraries*, 45(4), 262-281. <https://doi.org/10.1080/00048623.2014.945135>
- Koutras, N. (2020). The public policy basis for open access publishing: A scientific approach. *Publishing Research Quarterly*, 36, 538-552. <https://doi.org/10.1007/s12109-020-09772-8>
- Kozak, M. (2020). Historical development of tourism journals – A milestone in 75 years: A perspective article. *Tourism Review*, 75(1), 8-11. <https://doi.org/10.1108/TR-02-2019-0080>
- Laakso, M., & Björk, B.-C. (2013). Delayed open access: An overlooked high-impact category of openly available scientific literature. *Journal of the American Society for Information Science and Technology*, 64(7), 1323-1329. <https://doi.org/10.1002/asi.22856>
- Laakso, M., & Björk, B.-C. (2021). Open access journal publishing in the business disciplines: A closer look at the low uptake and discipline-specific considerations. *Journal of Librarianship and Information Science*, 54(2), 216-229. <https://doi.org/10.1177/09610006211006769>
- Laakso, M., Matthias, L., & Jahn, N. (2021). Open is not forever: A study of vanished open access journals. *Journal of the Association for Information Science and Technology*, 72(9), 1099-1112. <https://doi.org/10.1002/asi.24460>
- Larivière, V., Haustein, S., & Mongeon, P. (2015). The oligopoly of academic publishers in the digital era. *PLoS One*, 10(6), Article e0127502. <https://doi.org/10.1371/journal.pone.0127502>
- Luchilo, L. (2019). Oligopolio y acceso abierto. *CTS: Revista Iberoamericana de Ciencia, Tecnología y Sociedad*, 14(40), 41-79. <http://ojs.revistacts.net/index.php/CTS/article/view/94>

- McGuigan, G.S., & Russell, R.D. (2008). The business of academic publishing: A strategic analysis of the academic journal publishing industry and its impact on the future of scholarly publishing. *E-JASL: The Electronic Journal of Academic and Special Librarianship*, 9(3), Article 105. <https://digitalcommons.unl.edu/ejasljournal/105>
- McKercher, B. (2018). What is the state of hospitality and tourism research. *International Journal of Contemporary Hospitality Management*, 30(3), 1234-1244. <https://doi.org/10.1108/IJCHM-12-2017-0809>
- McKercher, B. (2020). The future of tourism journals: A perspective article. *Tourism Review*, 75(1), 12-15. <https://doi.org/10.1108/TR-03-2019-0095>
- Melero, R., & Abad García, M.F. (2008). Revistes d'accés obert: Característiques, models econòmics i tendències [Open access journals: Characteristics, economic models and trends]. *BiD: Textos Universitaris de Biblioteconomia i Documentació*, 20. <https://bid.ub.edu/sites/bid9/files/pdf/20meler1.pdf>
- Melero, R., Melero-Fuentes, D., & Rodríguez-Gairín, J-M. (2018). Monitoring compliance with governmental and institutional open access policies across Spanish universities. *El Profesional de la información*, 27(4), 858-878. <https://doi.org/10.3145/epi.2018.jul.15>
- Mering, M., & Hoeve, C.D. (2020). A brief history to the future of open access. *Serials Review*, 46(4), 300-304. <https://doi.org/10.1080/00987913.2020.1850041>
- Miller, A.N., Shannon, G.T., & Bedeian, A.G. (2011). Publish or perish academic life as management faculty live it. *Career Development International*, 16(5), 422-445. <https://doi.org/10.1108/13620431111167751>
- Mulet-Forteza, C., Genovart-Balaguer, J., Mauleon-Mendez, E., & Merigó, J.M. (2019). A bibliometric research in the tourism, leisure and hospitality fields. *Journal of Business Research*, 101, 819-827. <https://doi.org/10.1016/j.jbusres.2018.12.002>
- Naumov, N. (2019). Hospitality & Tourism Management International Journal: A new open-access platform for academics and practitioners. *Hospitality & Tourism Management International Journal*, 2(1), 1-2. https://pure.northampton.ac.uk/files/4432262/HTMIJ_02_00007.pdf
- Nicholas, D., Rowlands, I., Watkinson, A., Brown, D., & Jamali, H.R. (2012). Digital repositories ten years on: What do scientific researchers think of them and how do they use them? *Learned Publishing*, 25(3), 195-206. <https://doi.org/10.1087/20120306>
- Owlia, P., Vasei, M., Goliaei, B., & Nassiri, I. (2011). Normalized impact factor (NIF): An adjusted method for calculating the citation rate of biomedical journals. *Journal of Biomedical Informatics*, 44(2), 216-220. <https://doi.org/10.1016/j.jbi.2010.11.002>
- Pan, B. (2012). The case for open access in tourism and hospitality research. *Journal of Tourism & Hospitality*, 1(2), Article 1000e112. <https://www.longdom.org/open-access/the-case-for-open-access-in-tourism-and-hospitality-research-2167-0269.1000e112.pdf>
- Paul, S. (2012). Institutional repositories: Benefits and incentives. *The International Information & Library Review*, 44(4), 194-201. <https://doi.org/10.1080/10572317.2012.10762932>
- Peroni, S., Dutton, A., Gray, T., & Shotton, D. (2015). Setting our bibliographic references free: Towards open citation data. *Journal of Documentation*, 71(2), 253-277. <https://doi.org/10.1108/JD-12-2013-0166>
- Phillips, A. (2014). Business models in journals publishing. In B. Cope & A. Phillips (Eds.), *The future of the academic journal* (2nd ed.) (pp. 139-158). Chandos Publishing. <http://doi.org/10.1533/9781780634647.139>
- Piwowar, H., Priem, J., Larivière, V., Alperin, J. P., Matthias, L., Norlander, B., Farley, A., West, J., & Haustein, S. (2018). The state of OA: A large-scale analysis of the prevalence and impact of Open Access articles. *Peer J*, 6, Article e4375. <https://doi.org/10.7717/peerj.4375>
- Pluckrose, H., Lindsay, J., & Boghossian, P. (2021). Understanding the 'grievance studies affair' papers and why they should be reinstated: A response to Geoff Cole. *Sociological Methods & Research*, 50(4), 1916-1936. <https://doi.org/10.1177/00491241211009946>
- Prieto, A.G. (2009). From conceptual to perceptual reality: Trust in digital repositories. *Library Review*, 58(8), 593-606. <https://doi.org/10.1108/00242530910987082>
- Radder, H. (2010). *The commodification of academic research. Science and the modern university*. University of Pittsburgh Press.

- Research4Life. (2022). *Eligibility for access to Research4Life*. <https://www.research4life.org/access/eligibility/>
- Resnik, D.B. (2007). *The price of truth: How money affects the norms of science*. Oxford University Press.
- Schroter, S., & Tite, L. (2006). Open access publishing and author-pays business models: A survey of authors' knowledge and perceptions. *Journal of the Royal Society of Medicine*, 99(3), 141-148. <https://doi.org/10.1177/014107680609900316>
- Seadle, M. (2005). Copyright in the networked world: Author's rights. *Library Hi Tech*, 23(1), 130-136. <https://doi.org/10.1108/07378830510586766>
- Sengupta, P. (2021). Open access publication: Academic colonialism or knowledge philanthropy? *Geoforum*, 118, 203-206. <https://doi.org/10.1016/j.geoforum.2020.04.001>
- Shen, C. (2020). *A study of three alternative open access publishing models* [Doctoral dissertation]. Hanken School of Economics. <https://helda.helsinki.fi/dhanken/handle/10227/328611>
- Siler, K., & Frenken, K. (2020). The pricing of open access journals: Diverse niches and sources of value in academic publishing. *Quantitative Science Studies*, 1(1), 28-59. https://doi.org/10.1162/qss_a_00016
- Stiglitz, J.E. (1999a). Knowledge as a global public good. In I. Kaul et al. (Eds.), *Global public goods: International cooperation in the 21st century* (pp. 308-325). Oxford University Press. <https://doi.org/10.1093/0195130529.003.0015>
- Stiglitz, J.E. (1999b, January 27). *Public policy for a knowledge economy* (Remarks at the Department for Trade and Industry and Center for Economic Policy Research).
- Suber, P. (2012). *Open access*. MIT Press. <https://openaccessseks.mitpress.mit.edu/>
- Swan, A. (2012). *Policy guidelines for the development and promotion of open access*. United Nations Educational, Scientific and Cultural Organization (UNESCO). <https://unesdoc.unesco.org/ark:/48223/pf0000215863>
- Tennant, J.P., Waldner, F., Jacques, D.C., Masuzzo, P., Collister, L.B. & Hartgerink, C.H.J. (2016). The academic, economic, and societal impacts of open access: An evidence-based review. *F1000Research*, 5, Article 632. <https://doi.org/10.12688/f1000research.8460.3>
- Tickell, A. (2016). *Open access to research publications: Independent advice*. <https://apo.org.au/sites/default/files/resource-files/2016-02/apo-nid308486.pdf>
- Tribe, J. (2018). Creating and curating tourism knowledge. *Annals of Tourism Research*, 73, 14-25. <https://doi.org/10.1016/j.annals.2018.08.004>
- Van Noorden, R. (2013). Open access: The true cost of science publishing. *Nature*, 495, 426-429. <https://doi.org/10.1038/495426a>
- Verschraegen, G., & Schiltz, M. (2007). Knowledge as a global public good: The role and importance of open access. *Societies Without Borders*, 2(2), 157-174. <https://doi.org/10.1163/187219107X203540>
- Willinsky, J., & Alperin, J.P. (2011). The academic ethics of open access to research and scholarship. *Ethics and Education*, 6(3), 217-223. <https://doi.org/10.1080/17449642.2011.632716>
- Wong, A.K.F., Koseoglu, M.A., & Kim, S.S. (2021). Creation and dissemination of hospitality and tourism research outputs in the new millennium. *International Journal of Contemporary Hospitality Management*, 33(2), 377-401. <https://doi.org/10.1108/IJCHM-05-2020-0493>
- Zhang, L., & Watson, E.M. (2017). Measuring the impact of gold and green open access. *The Journal of Academic Librarianship*, 43(4), 337-345. <https://doi.org/10.1016/j.acalib.2017.06.004>
- Zhang, X., Grebel, T., & Budzinski, O. (2021). The prices of open access publishing: The composition of APC across different fields of sciences. In O. Budzinski, J. Haucap, A. Stöhr, & D. Wentzel (Eds.), *Zur Ökonomik von Sport, Entertainment und Medien* (pp. 317-336). De Gruyter Oldenbourg. <https://doi.org/10.1515/9783110724523-014>

Submitted: April 04, 2022

Revised: July 19, 2022

Revised: October 03, 2022

Accepted: November 04, 2022

Appendix A

Alphabetical list of the journals included in the analysis

1. Academica Turistica : Tourism and Innovation Journal
2. Acta Economica et Turistica
3. Acta Turistica
4. Advances in Culture, Tourism and Hospitality Research
5. African Journal of Hospitality, Tourism and Leisure
6. Almatourism: journal of tourism, culture, and territorial development
7. Anatolia: international journal of tourism and hospitality research
8. Annals of Leisure Research
9. Annals of Tourism Research
10. Aportes y Transferencias: tiempo libre, turismo y recreación
11. Applied Tourism
12. ARA: Journal of Tourism Research = Revista de investigación en turismo
13. Asia-Pacific Journal of Innovation in Hospitality and Tourism
14. Asia Pacific Journal of Tourism Research
15. Cactus: tourism journal for research, education, culture and soul
16. Caderno Virtual de Turismo
17. Cornell Hospitality Quarterly
18. Cuadernos de Turismo
19. Cultur: revista de cultura e turismo
20. Current Issues in Tourism
21. Czech Journal of Tourism
22. Deturope
23. E-Journal of Tourism
24. E-Review of Tourism Research
25. El Periplo Sustentable
26. Enlightening Tourism
27. Estudios Turísticos
28. Estudios y Perspectivas en Turismo
29. European Journal of Tourism, Hospitality and Recreation
30. European Journal of Tourism Research
31. Events and Tourism Review
32. Event Management
33. Folia Turistica
34. GeoJournal of Tourism and Geosites
35. Gestión Turística
36. Gran Tour: revista de investigaciones turísticas
37. Hospitality & Society
38. Information Technology & Tourism
39. International Hospitality Review
40. International Journal of Applied Sciences in Tourism and Events
41. International Journal of Contemporary Hospitality Management
42. International Journal of Culture, Tourism and Hospitality Research
43. International Journal of Digital Culture and Electronic Tourism
44. International Journal of Event and Festival Management
45. International Journal of Hospitality & Tourism Administration
46. International Journal of Hospitality and Tourism Systems
47. International Journal of Hospitality Management
48. International Journal of Information Systems and Tourism
49. International Journal of Religious Tourism and Pilgrimage
50. International Journal of Research in Tourism and Hospitality
51. International Journal of Scientific Management and Tourism
52. International Journal of Tourism Anthropology
53. International Journal of Tourism Cities
54. International Journal of Tourism Policy
55. International Journal of Tourism Research
56. International Journal of World of Tourism

(continued)

57. Investigaciones Turísticas
58. Journal of Applied Sciences in Travel and Hospitality
59. Journal of China Tourism Research
60. Journal of Convention & Event Tourism
61. Journal of Destination Marketing & Management
62. Journal of Ecotourism
63. Journal of Environmental and Tourism Analyses
64. Journal of Environmental Management and Tourism
65. Journal of Gastronomy and Tourism
66. Journal of Gastronomy, Hospitality and Travel
67. Journal of Heritage Tourism
68. Journal of Hospitality
69. Journal of Hospitality & Leisure Marketing
70. Journal of Hospitality & Tourism Cases
71. Journal of Hospitality & Tourism Education
72. Journal of Hospitality and Tourism Insights
73. Journal of Hospitality and Tourism Management
74. Journal of Hospitality & Tourism Research
75. Journal of Hospitality & Tourism Technology
76. Journal of Hospitality Financial Management
77. Journal of Hospitality, Leisure, Sport and Tourism Education
78. Journal of Hospitality Management and Tourism
79. Journal of Hospitality Marketing & Management
80. Journal of Human Resources in Hospitality and Tourism
81. Journal of Indonesian Tourism and Development Studies
82. Journal of Leisure Research
83. Journal of Outdoor Recreation and Tourism
84. Journal of Place Management and Development
85. Journal of Policy Research in Tourism, Leisure and Events
86. Journal of Quality Assurance in Hospitality & Tourism
87. Journal of Quality Research in Tourism
88. Journal of Sport & Tourism
89. Journal of Sustainable Tourism
90. Journal of Teaching in Travel & Tourism
91. Journal of Tourism Analysis
92. Journal of Tourism & Cultural Change
93. Journal of Tourism and Gastronomy Studies
94. Journal of Tourism and Heritage Research
95. Journal of Tourism and Leisure Studies
96. Journal of Tourism & Services
97. Journal of Tourism Challenges and Trends
98. Journal of Tourism Futures
99. Journal of Tourism, Heritage & Services marketing
100. Journal of Tourism History
101. Journal of Tourism, Hospitality and Sports
102. Journal of Tourism Insights
103. Journal of Tourism Research and Hospitality
104. Journal of Tourismology
105. Journal of Travel & Tourism Marketing
106. Journal of Travel Research
107. Journal of Vacation Marketing
108. Journal on Tourism and Sustainability
109. Kalpana
110. Leisure/Loisir
111. Leisure Sciences
112. Leisure Studies
113. Managing Sport & Leisure
114. Marketing & Tourism Review
115. Matkailututkimus: Finnish Journal of Tourism Research

(continued)

116. Mondes du Tourisme
117. Pasos: revista de turismo y patrimonio cultural
118. Podium: Sport, Leisure and Tourism Review
119. Polish Journal of Sport and Tourism
120. Quaestus
121. Realidad, Tendencias y Desafíos en Turismo
122. Research in Hospitality Management
123. Retos Turísticos: revista de investigaciones turísticas de la Universidad de Matanzas
124. Revista Brasileira de Pesquisa em Turismo (RBTUR)
125. Revista de Turism
126. Revista Eletrônica de Administração e Turismo
127. Revista Iberoamericana de Turismo (RITUR)
128. Revista Internacional de Turismo, Empresa y Territorio (RITUREM)
129. Revista Turismo: estudos e práticas (RTEP)
130. Revista Turismo & Desenvolvimento = Journal of Tourism and Development
131. Revista Turismo em Análise (RTA)
132. Revue Espaces
133. RIAT: Revista Interamericana de Ambiente y Turismo
134. Rivista di scienze del turismo
135. ROTUR: Revista de ocio y turismo
136. Scandinavian Journal of Hospitality and Tourism
137. SCHOLE: a journal of leisure studies and recreation education
138. Teoros: Revue de Recherche en Tourisme
139. Tourism: an International Interdisciplinary Journal
140. Tourism Analysis
141. Tourism and Hospitality
142. Tourism and Heritage Journal
143. Tourism and Hospitality Management
144. Tourism and Hospitality Research
145. Tourism & Management Studies
146. Tourism, Culture & Communication
147. Tourism Economics
148. Tourism Geographies
149. Tourism in Marine Environments
150. Tourism Management
151. Tourism Management Perspectives
152. Tourism Planning & Development
153. Tourism Recreation Research
154. Tourism Review = Revue de tourisme
155. Tourism Review International
156. Tourismos : an International Multidisciplinary Refereed Journal of Tourism
157. Tourist Studies
158. TRJ Tourism Research Journal
159. Turismo: Revista de Estudios de Turismo de Canarias y Macaronesia
160. Turismo: Visão e Ação
161. Turismo, Desarrollo y Buen Vivir : Revista de Investigación de la Ciencia Turística (RICIT)
162. Turismo e Sociedade
163. Turismo y Patrimonio
164. Turismo y Sociedad (Anuario Turismo y Sociedad)
165. Turistica: Italian Journal of Tourism
166. Turizam: International Scientific Journal
167. TuryDes: Revista de Investigación en Turismo y Desarrollo Local
168. Turyzm
169. UTMS Journal of Economics
170. Visions in Leisure and Business
171. Visitor Studies
172. World Leisure Journal
173. Worldwide Hospitality and Tourism Themes
174. Zeitschrift für Tourismuswissenschaft

Appendix B

Country of registration of the publisher of the journals included in the analysis

Country of registration of the publisher	Number of journals	Share
United Kingdom	44	25.3%
United States	30	17.2%
Spain	17	9.8%
Brazil	12	6.9%
Netherlands	8	4.6%
Romania	7	4.0%
Indonesia	5	2.9%
Turkey	4	2.3%
Croatia	4	2.3%
Portugal	3	1.7%
Poland	3	1.7%
Italy	3	1.7%
Argentina	3	1.7%
South Africa	2	1.1%
Serbia	2	1.1%
India	2	1.1%
Greece	2	1.1%
France	2	1.1%
Ecuador	2	1.1%
Czech Republic	2	1.1%
Chile	2	1.1%
Switzerland	1	0.6%
Slovenia	1	0.6%
Peru	1	0.6%
Nigeria	1	0.6%
Mexico	1	0.6%
Malaysia	1	0.6%
Macedonia	1	0.6%
Kenya	1	0.6%
Ireland	1	0.6%
Germany	1	0.6%
Finland	1	0.6%
Cuba	1	0.6%
Colombia	1	0.6%
Canada	1	0.6%
Bulgaria	1	0.6%
Total	174	100.0%

Appendix C

Publishing mode by country of registration of the publisher

Country of registration of the publisher United Kingdom	Publishing mode				Total
	Hybrid	Open-access journal with Gold OA	Platinum OA journals	Subscription-only journal	
Argentina	0	0	3	0	3
Brazil	0	0	12	0	12
Bulgaria	0	0	1	0	1
Canada	0	0	1	0	1
Chile	0	0	2	0	2
Colombia	0	0	1	0	1
Croatia	0	0	4	0	4
Cuba	0	0	1	0	1
Czech Republic	0	0	2	0	2
Ecuador	0	0	2	0	2
Finland	0	0	1	0	1
France	0	0	1	1	2
Germany	1	0	0	0	1
Greece	0	0	2	0	2
India	0	1	0	1	2
Indonesia	1	2	2	0	5
Ireland	0	0	1	0	1
Italy	0	0	2	1	3
Kenya	0	0	1	0	1
Macedonia	0	0	1	0	1
Malaysia	0	0	1	0	1
Mexico	0	0	1	0	1
Netherlands	7	0	0	1	8
Nigeria	0	1	0	0	1
Peru	0	0	1	0	1
Poland	0	0	3	0	3
Portugal	0	0	3	0	3
Romania	0	2	4	1	7
Serbia	0	0	2	0	2
Slovenia	0	0	1	0	1
South Africa	0	1	0	1	2
Spain	0	0	16	1	17
Switzerland	0	1	0	0	1
Turkey	0	1	3	0	4
United Kingdom	40	0	3	1	44
United States	19	0	5	6	30
Total	68	9	83	14	174

Note. $\chi^2=247.277$ (df=105, $p<0.001$).