

Open access monitoring and business model in Latin America and Middle East: a comparative study based on DOAJ data and criteria

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Abstract

This research will focus on analyzing the state of open access journals in two regions of developing countries (Latin America and Middle East) according to two main aspects: a) business models and b) monitoring policies that journals implement to ensure the quality.

DOAJ alongside to other institutions has performed great efforts in order to enrich the movement of open access in developing countries. DOAJ is the largest database of peer reviewed open access journals. As March 2018 it has 11.250 journals, and more than 2.900.000 indexed articles from 123 countries. Using the DOAJ database first, we identified the journals published in countries from the Latin America and Middle East. Then we extracted the data on APCs and submission charges to analyze the business models comparing this data with some other official documents.

We also analyzed some of the DOAJ's data on monitoring policies, i.e. the review process for papers and the policy of screening for plagiarism.

According to initial survey of business models implemented in open access journals in Latin America we found that only 5% of journals charge author fees (APCs and submission charges) being Brazil the country with the highest number of journals that adopt this policy. Open access is the predominant business model in the majority of countries and it is mostly public funded. Regarding the Middle East region, we can list variant models depending on the economic conditions of each country. APCs and submission charges is growing trend in low economic countries, for example: Egypt, Sudan, North Africa States, however in high economic countries like Gulf States the authors get paid when publish a paper in a journal.

Most of the journals from Latin America (LATAM) implement double or simple blind peer review process and only four journals (published in Brazil and Argentina) carry out some kind of open peer review system. Concerning the policy of screening for plagiarism only 20% of journals state to use any type of software (open source, proprietary, free, etc.). For journals in the Middle East (MENA), depending on DOAJ experience the types of peer-review are not quite clear for all journals' editors. Some countries initiated to have policy for plagiarism. Through the Higher Supreme of Universities in Egypt, screening for plagiarism checked for theses and faculty staff researches, however journals still not familiar with plagiarism detection software, and it requires high cost.

The research will find out deeper results about the two areas depending on DOAJ data analysis and other resources regarding the business model and journal monitoring.

Introduction

Open Access (OA) is a model of scholarly publishing where research outputs are available on the internet without financial, legal, or technical barriers. According to the Budapest Open Access Initiative (BOAI), signed in 2002 by 6,103 individuals and 1,092 organizations from several countries, this mean that users can read, download, copy, distribute, print, search, or use them for any other lawful purpose (BOAI, 2002). However, in Latin America this is a model that had been adopted even before BOAI was signed. This is because since the late 90's some initiatives like the Scientific Electronic Library (SciELO) and Latindex emerged in Brazil and Mexico respectively, with the aim of make visible scientific production published in journals (Vasen & Lujano, 2017).

1.1. Business models in OA publishing

Business model is the architecture for the product, service and information flows, including a description of the various business actors and their roles (Chang, 2006). The business model in

terms of scholarly publishing focus on is the sources of financial support for journals. Open Oasis listed different business models as follow:

- Community publishing
- Advertising or sponsorship supported journals
- Institutional subsidy
- Hard copy sales
- Article-processing charges (APCs)
- Institutional membership schemes
- Collaborative purchasing models (Open Oasis, 2012).

For purposes of this research, we will focus on APCs as it is a model in OA publishing that has been growing recently in many countries. This model is based on fees charged to authors, generally with the aim of publish the paper in OA.

APCs (Article processing charges)

According to Suber (2012), APCs defined as “A fee charged by some OA journals when accepting an article for publication, in order to cover the costs of production. It’s one way to cover production costs without charging readers and erecting access barriers. While the bill goes to the author, the fee is usually paid by the author’s funder or employer, not by the author out of pocket” (Suber, 2012).

Another definition provided by Beasley (2016): “Article Processing Charges (APCs) may be defined as the charges levied by publishers from authors for publishing journal articles. The levy is generally set by commercial publishers at between a few hundred and a few thousand euros or US dollars per article”

1.2. Peer-review

Peer-review is one of the most important processes in scholarly publishing cycle. Especially in OA environment where journals accused with predatory. For this reasons, peer-review is very essential in order to grantee the quality of articles. Peer review is a core mechanism for quality control in scientific publishing (Wicherts, 2016).

In addition to the traditional peer-review process, there are new types peer-review:

a) Single blind review

In this type of peer review the author does not know who the reviewers are. This is the most common form of peer review among science journals.

b) Double blind review

In this type of peer review the reviewers don't know the identity of authors, and vice versa. This is the most common form of peer review amongst social science and humanities journals (Ray, 2016).

c) Open peer review

The identity of the author and the reviewers are known by all participants. There is a growing minority of journals using this form of peer review but popularity among reviewers is yet to be proven. Some journals may also publish the reviews together with final articles, and so readers see both the identity of the reviewers and their comments. This is only the case, however, with accepted articles (Bali, 2015).

1.3. Plagiarism screening

Text plagiarism is one of growing concern issues in scholarly publishing. Plagiarism detecting is an important tool in quality assurance to the content of journals, and related to ethical issues as well. Many of journals establish their plagiarism screening policy which includes the use of plagiarism detection software (i.e. Turnitin, iThenticate, etc) which basically works based on text-matching. Some other policies ask the authors to submit self plagiarism check report alongside with the article. (Li, 2013). There is also a trend among publishers to adhere to Committee in Publication Ethics (COPE), which is an organization that promotes best practice on publication, as well as offers guidance and resources for improving transparency and ethics. Some journals adhere to COPE and adopt strategies on plagiarism detection recommended by this organization which includes the publication of what the journal considers plagiarism and redundant/overlapping publication is.

2. About the DOAJ

DOAJ alongside to other institutions has performed great efforts in order to enrich OA movement in developing countries. DOAJ is the largest database of peer reviewed open access journals. As March 2018 it has 11.250 journals, and more than 2.900.000 indexed articles from 123 countries. One of the main concerns of the DOAJ is to keep and improve quality of journals, especially when it comes to the Global South. In 2016 DOAJ launched a program of Ambassadors with the aim of promote best practice among publishers of Asia, Africa, Latin America and Middle East. One of the main goals of DOAJ is to promote best practice on journals publishing, especially those practices that improve transparency and visibility of journals.

3. Methodology

DOAJ makes available its database on the website under a Creative Commons BY-SA license. This database includes all the information DOAJ collect from journals through the application form, which publishers fill in when applying to be indexed. We downloaded the CSV file from <https://doaj.org/faq#metadata> and processed it in an Excel sheet. Using simple filters, we selected journals from LATAM and MENA journals. First, we identified LATAM and MENA countries

based on information from UNESCO’s website. Subsequently we removed countries with any journal indexed in DOAJ resulting in a list of 2,196 LATAM journals distributed in 19 countries, and 540 MENA journals distributed in 17 countries, corresponding to our research universe (N).

4. Data analysis

In this section, the research will analysis journals data which retrieved from DOAJ about the two regions covered by the study LATAM and MENA.

4.1.1. Latin American journals in DOAJ

Latin American journals in DOAJ represent 19% of total amount of journals indexed by June 2018. This is a relevant percentage that makes Latin America a leader region in open access journals publishing. Brazil publishes 56% of these journals (1249), being the third country with more journals indexed in DOAJ after United Kingdom and Indonesia. In second place there is a group of countries with more than 100 journals each one: Colombia, Argentina, and Mexico. These countries are leaders on scientific research outputs published in the region as it is shown in most of the local and international databases. There is a third group of journals, which include Chile, Costa Rica, Cuba, Ecuador, Peru, Uruguay and Venezuela that have between 17 and 67 journals registered in DOAJ. Finally, a group of countries from the sub regions of Central America and the Caribbean have between one to five journals indexed each. These data show the complexity of this region and the different challenges countries face in terms of journals publishing development.

Table 1. LATAM region journals in DOAJ

Country	No. of journals
Argentina	179
Bahamas	1
Bolivia (Plurinational State of)	5
Brazil	1249
Chile	94
Colombia	295
Costa Rica	50
Cuba	67
Ecuador	40
El Salvador	1
Guatemala	3
Jamaica	1
Mexico	115
Nicaragua	5
Paraguay	5
Peru	40
Puerto Rico	3

Country	No. of journals
Uruguay	17
Venezuela (Bolivarian Republic of)	26
Total	2196

4.1.2. APCs

Since in Latin America most of the journals are published by universities and research centers that are public funded, charging fees to authors is not a common practice (Appel, Lujano & Albagli, 2018). Part of the public investment on science and technology in Latin American countries is allocated to dissemination of research outputs, which include journals' budget. This could explain why, according to DOAJ data, only 5% of LATAM journals (112) state they have some form of APCs. However, APCs is a trend growing among journals published by research associations and foundations, being Brazil the most remarkable case.

Table 2. APCs in LATAM region journals

Country	Yes	No	No info	TOTAL
Argentina	8	171	0	179
Bahamas	0	1	0	1
Bolivia	0	5	0	5
Brazil	82	1154	13	1249
Chile	3	91	0	94
Colombia	3	292	0	295
Costa Rica	0	51	0	51
Cuba	0	67	0	67
Ecuador	0	40	0	40
El Salvador	0	1	0	1
Guatemala	0	3	0	3
Jamaica	1	0	0	1
Mexico	11	104	0	115
Nicaragua	0	5	0	5
Paraguay	0	5	0	5
Peru	2	38	0	40
Puerto Rico	0	3	0	3
Uruguay	0	17	0	17
Venezuela	2	23	1	26
TOTAL	112	2071	14	2196
%	5.1%	94.3%	0.6%	

Journals from only eight LATAM countries register APCs, as it is shown in Table 2. The amounts of these fees vary from one country to another and it depends also on the type of publisher (HE institution, research association, etc.). APCs go from 15 to 1400 USD, consulted in May 2018. This trend is more common among journals of Agriculture, Health Sciences and other STEM fields, contrary to Social Sciences and Humanities journals which rarely charge any kind of fees to authors.

Table 3. APCs average in LATAM region

Country	Average in USD*
Argentina	45
Brazil	400
Chile	500
Colombia	100
Jamaica	1000
Mexico	160
Peru	100
Venezuela	500
Average	350

4.1.3. Peer-review

More than a half of Latin American journals (58%) indexed in DOAJ adopt double blind peer-review process for selecting articles.

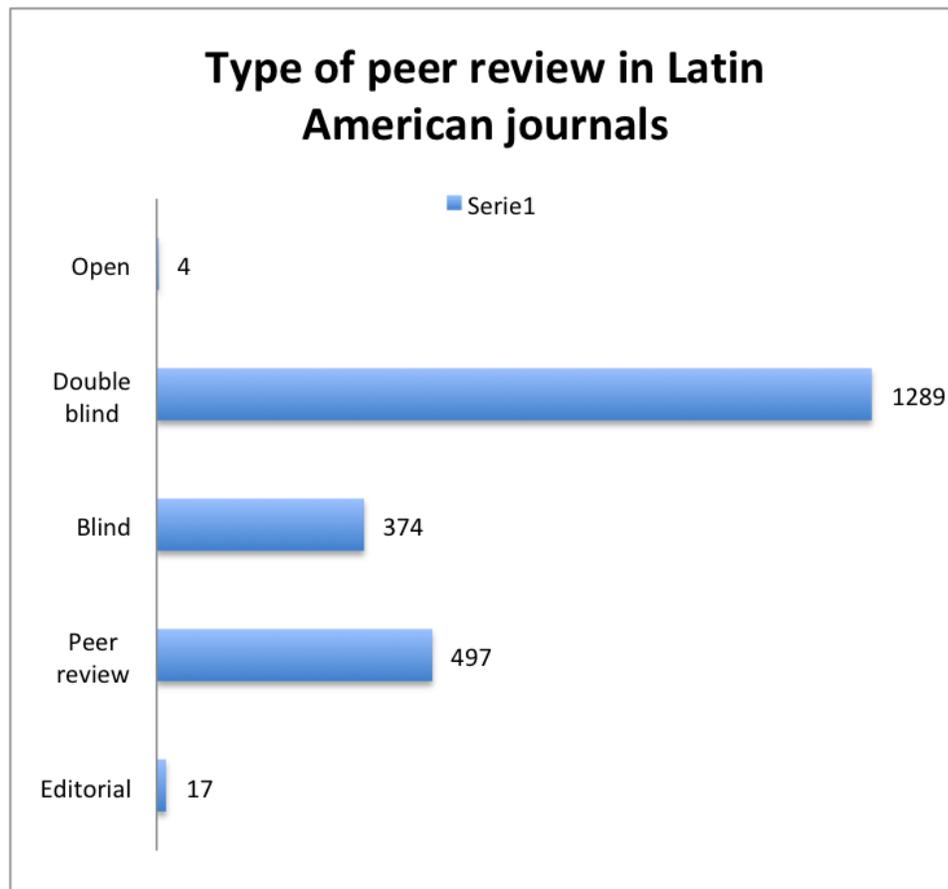
Only 5% of the sample state open peer review as the system they use to assure quality of papers. These journals are published in Brazil (3) and Argentina (1). When consulting their websites it is stated OPR, however there are not

Table 4. Peer-review types in LATAM region

Country	Editorial	Peer review	Blind	Double blind	Open	No info	TOTAL
Argentina	0	23	22	133	1	0	179
Bahamas	0	0	0	1	0	0	1
Bolivia	0	2	0	3	0	0	5
Brazil	13	332	258	630	3	13	1249
Chile	0	19	11	63	0	1	94
Colombia	3	38	39	215	0	0	295
Costa Rica	0	9	7	34	0	0	51
Cuba	0	14	4	49	0	0	67
Ecuador	0	15	7	18	0	0	40
El Salvador	0	1	0	0	0	0	1

Guatemala	0	1	2	0	0	0	3
Jamaica	0	1	0	0	0	0	1
Mexico	0	15	12	88	0	0	115
Nicaragua	0	2	0	3	0	0	5
Paraguay	0	3	1	1	0	0	5
Peru	1	11	8	20	0	0	40
Puerto Rico	0	1	0	2	0	0	3
Uruguay	0	6	1	10	0	0	17
Venezuela	0	4	2	19	0	1	26
TOTAL	17	497	374	1289	4	15	2196
	0.7%	22.6%	17%	58.6%	0.1%	0.6%	

Graph 1. Type of peer review in LATAM journals



4.1.4. Plagiarism screening policy

Plagiarism screening is not a common practice among Latin American journals as the data in Table 5 show. Colombia and Costa Rica are two countries where more than 50% of journals state

to use a software for plagiarism detection, followed by Mexico with 30%. The rest of LATAM countries rarely adopts this policy. One of the main reasons we suppose could explain these low percentages is that journals' budget is limited so publishers cannot easily purchase software. There are some open source plagiarism detection software examples, however, it is possible that these tools scan content mostly in English and not in LATAM most spoken languages so publishers are not interested in it.

Table 5. Plagiarism screening policy in LATAM

Country	Yes	No	TOTAL
Argentina	24	155	179
Bahamas	1	0	1
Bolivia	0	5	5
Brazil	234	1015	1249
Chile	22	72	94
Colombia	110	185	295
Costa Rica	22	28	51
Cuba	14	53	67
Ecuador	14	26	40
El Salvador	1	0	1
Guatemala	1	2	3
Jamaica	1	0	1
Mexico	35	80	115
Nicaragua	0	5	5
Paraguay	1	4	5
Peru	7	33	40
Puerto Rico	2	1	3
Uruguay	2	15	17
Venezuela	8	18	26
TOTAL	499	1697	2196
	22.7%	76.3%	

4.2. MENA region

4.2.1. MENA journals in DOAJ

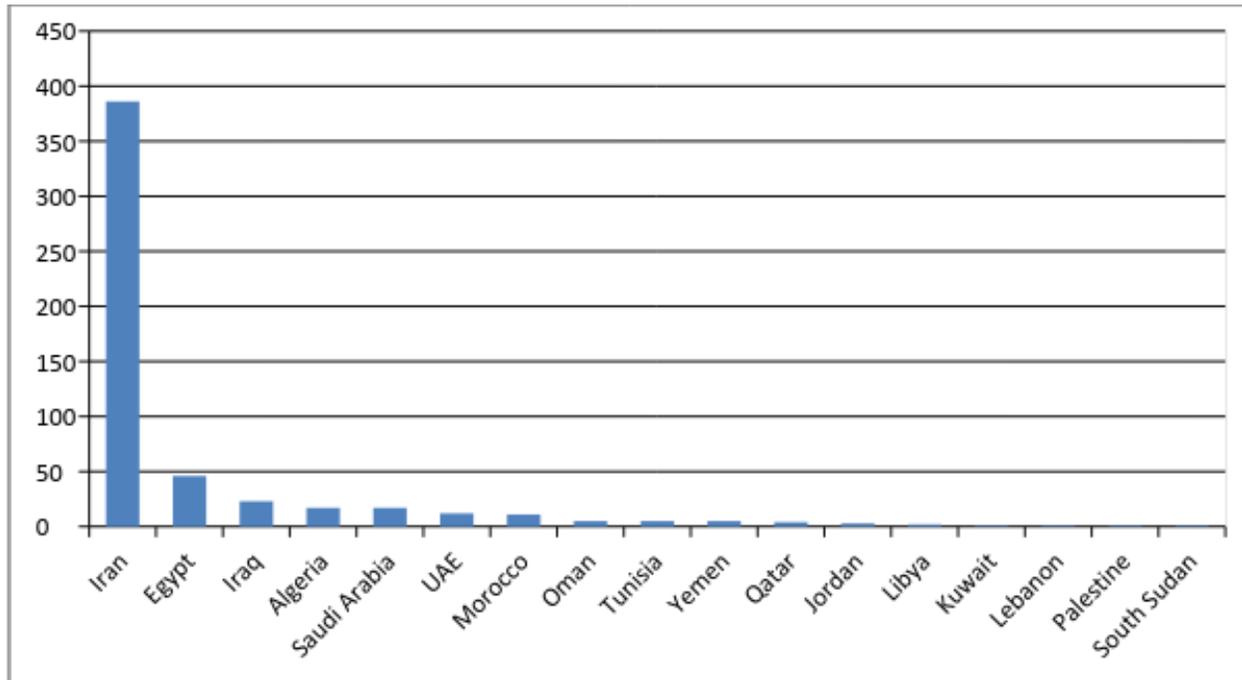
Until June 2018, DOAJ has 540 OA journals from MENA region. Iran, Egypt, and Iraq are the top three countries in the region. Until March 2018, Egypt was the fourth top county in DOAJ with about 600 journals. However, the Egyptian publisher Hindawy moved his headquarter to London. As a result, the journals nationality moved to England as well.

Some countries from MENA region have no journals included in DOAJ: Bahrain, Sudan, Djibouti, and Somalia.

Table 6. MENA region journals in DOAJ

Country	No. of journals
Algeria	17
Egypt	46
Iran	386
Iraq	23
Jordan	3
Kuwait	1
Lebanon	1
Libya	2
Morocco	11
Oman	5
Palestine	1
Qatar	4
Saudi Arabia	17
South Sudan	1
Tunisia	5
UAE	12
Yemen	5
Total	540

Graph 2. MENA region journals in DOAJ



4.2.2. APCs

APCs as a business model for open access journals in MENA region is not a common trend. Only 18% of OA journals apply charges for articles publishing and processing, and 82% do not apply APCs. There's another trend common in some countries in MENA region that is journals pay for authors when publishing their papers. This trend is common in high economic countries in the region. Gulf countries are vital example on this trend. It is common in the regional organization like the Arab League, and ALESCO.

Table 7. APCs in MENA region journals

Country	Yes	No	No info	TOTAL
Algeria	0	17	0	17
Egypt	18	28	0	46
Iran	49	336	1	386
Iraq	15	8	0	23
Jordan	1	2	0	3
Kuwait	0	1	0	1
Lebanon	0	1	0	1
Libya	1	1	0	2
Morocco	1	10	0	11
Oman	0	5	0	5

Palestine	0	1	0	1
Qatar	1	3	0	4
Saudi Arabia	1	16	0	17
South Sudan	0	1	0	1
Tunisia	2	3	0	5
UAE	9	3	0	12
Yemen	0	4	1	5
TOTAL	98	440	2	540
%	18.1%	81.4%	0.5%	

Ten out of 17 countries apply APCs; Table 8 presents the average of charges in each country. The average converted into USD in case of charging authors in the local currency. The final average of all journals charges is 172.3 USD.

Table 8. APCs average in MENA region

Country	Average in USD*
Iraq	89
Jordan	100
Libya	100
Iran	147.9
Egypt	149.5
Tunisia	153
Morocco	180
Saudi Arabia	292
UAE	404
Qatar	995
TOTAL	172.3

4.2.3. Peer-review

According to peer-review analysis for MENA region journals, 48.1% of journals implement the double-blind peer-review; the second most type is the normal peer-review with 32.2%, and the blind peer-review got 18.5%. The editorial peer-review is not common trend in MENA region journals, only 0.8% of journals implement it.

Table 9. Peer-review types in MENA region

Country	Editorial	Peer review	Blind	Double blind	Open	No info	TOTAL
Algeria	1	8	1	7	0	0	17
Egypt	0	5	15	26	0	0	46
Iran	3	138	72	172	0	1	386
Iraq	0	12	4	7	0	0	23
Jordan	0	2	0	1	0	0	3
Kuwait	0	0	1	0	0	0	1
Lebanon	0	1	0	0	0	0	1
Libya	0	0	1	1	0	0	2
Morocco	0	1	0	10	0	0	11
Oman	0	1	1	3	0	0	5
Palestine	0	1	0	0	0	0	1
Qatar	0	0	1	3	0	0	4
Saudi Arabia	0	1	2	14	0	0	17
South Sudan	0	0	0	1	0	0	1
Tunisia	0	3	1	1	0	0	5
UAE	0	1	0	11	0	0	12
Yemen	0	0	1	3	0	1	5
TOTAL	4	174	100	260	0	2	540
	0.8%	32.2%	18.5%	48.1%	0%	0.2%	

4.2.4. Plagiarism screening policy

The table 10 shows that 48% of journals implement plagiarism screening and 52% of journals do not have plagiarism screening policy.

Table 10. Plagiarism screening policy in MENA

Country	Yes	No	TOTAL
Algeria	2	15	17
Egypt	36	10	46
Iran	182	204	386
Iraq	10	13	23
Jordan	2	1	3
Kuwait	0	1	1
Lebanon	1	0	1
Libya	1	1	2
Morocco	0	11	11
Oman	4	1	5
Palestine	0	1	1

Qatar	1	3	4
Saudi Arabia	14	3	17
South Sudan	0	1	1
Tunisia	0	5	5
UAE	6	6	12
Yemen	2	3	5
TOTAL	261	279	540
	48.3%	51.7%	

5. Comparative analysis

After presenting the status of OA journals in LATINAM and MENA regarding the business models and monitoring; in this section the study will compare all analyzed data from the two regions in order to find out the similarities and differences.

5.2. APCs

The status of APCs as a business model for open access journals is almost similar in LATINAM and MENA. APCs not common model in the two regions as only 5.1% of journals in LATINAM and 18.1% in MENA applies APCs.

Table 11. APCs in LATAM and MENA journals

Region	Yes		No		No info		TOTAL
	No.	%	No.	%	No.	%	
LATAM	112	5.1%	2071	94.3%	14	0.6%	2196
MENA	98	18.1%	440	81.4%	2	0.5%	540

Graph 3. APCs in LATAM and MENA journals

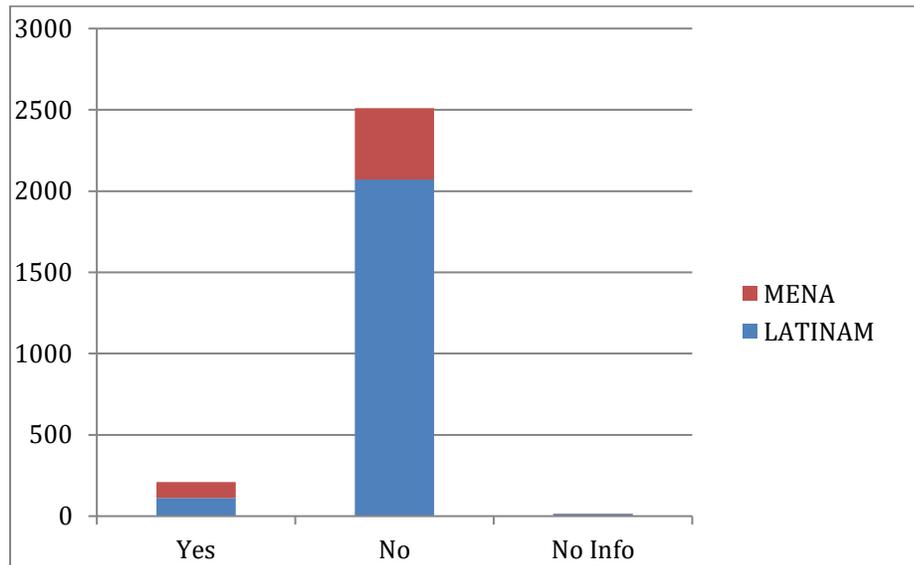


Table 11. APCs average in LATAM and MENA journals

Country	Average in USD
LATAM	350
MENA	172.3

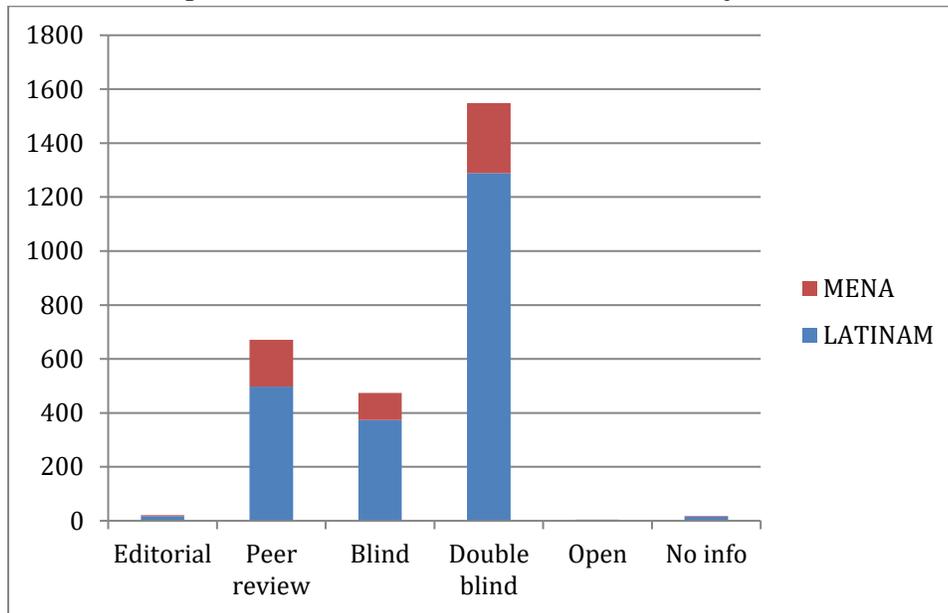
5.3. Peer-review

The double blind peer-review is the most common type in OA journals of LATAM and MENA; it is applied in 58.6% of journals in LATAM and 48.1% of journals in MENA. Then the classic peer-review in the two regions, and then the blind peer-review came as the third most common type. In general LATAM and MENA are very similar regarding the types of peer-review as it is shown in Table.

Table 12. Peer review in LATAM and MENA journals

Type	LATINAM		MENA	
	No.	%	No.	%
Editorial	17	0.7%	4	0.8%
Peer review	497	22.6%	174	32.2%
Blind	374	17%	100	18.5%
Double blind	1289	58.6%	260	48.1%
Open	4	0.1%	0	0%
No info	15	0.6%	2	0.2%

Graph 4. Peer review in LATAM and MENA journals



5.4. Plagiarism screening policy

OA journals in MENA paid more attention to plagiarism screening policy than journals in LATINAM. About 48% of MENA journals have a plagiarism policy; on the other hand only 22.7% of LATINAM journals apply it.

Table 13. Plagiarism screening policy in LATAM and MENA journals

Country	Yes		No		TOTAL
	No.	%	No.	%	
LATINAM	499	22.7%	1697	77.3%	2196
MENA	261	48.3%	279	51.7%	540

6. Conclusions

With the conclusion of this study, we highlight that there are remarkable coincidences between LATINAM and MENA journals publishing in the three aspects analyzed. First, in both regions there is a low adoption of the APCs model because most of journals are subsidized by institutions or governments. That is, diffusion is a commitment of HE and research systems, which contrasts with other regions where journals are published by for profit publishers. Plus, the amounts of APCs are also low in comparison with fees charged by commercial publishers. Second, in both

regions the most common type of peer review process is some form of blind review, i.e. there is a prevailing preference for the traditional process to monitor quality of papers. Finally, the adoption of plagiarism detection based on software is low in both regions, which could reflect a lack of budget and professionalization of monitoring processes.

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