



The Role of Open Access in Shaping the **Future of Scientific Publishing**

28th & 29th May 2024

De La Salle University and New World Hotel, Makati City, Philippines

Dr. Mohd Faizal Hamzah
Senior Librarian,
Universiti Malaya Library, Malaysia

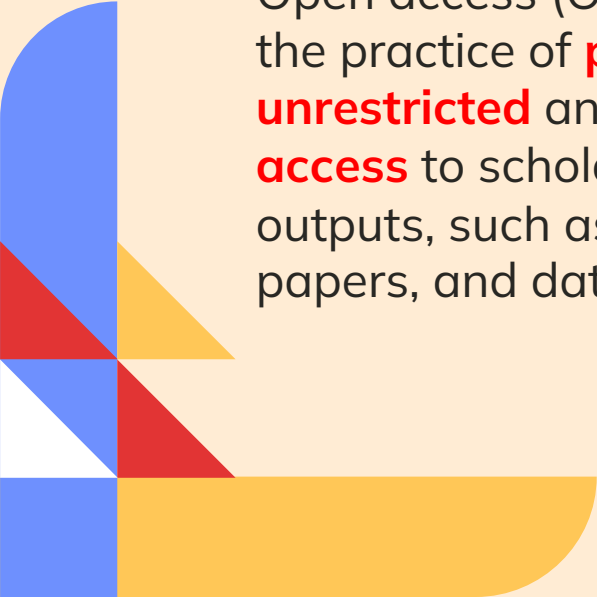




What is..

Open Access


Open access (OA) refers to the practice of **providing unrestricted and free online access** to scholarly research outputs, such as articles, papers, and data.



Scientific publishing




Scientific publishing refers to the **process of disseminating scientific research and findings to the academic community and the public through various channels.**





Before we talk about Open Access



Predictions For The Future of Scientific Publishing.



The landscape of scientific publishing is poised for significant evolution, driven by 1) technological advancements, 2) shifts in academic culture, and an increasing emphasis on 3) openness and transparency



Sowjanya Pedada (2024)

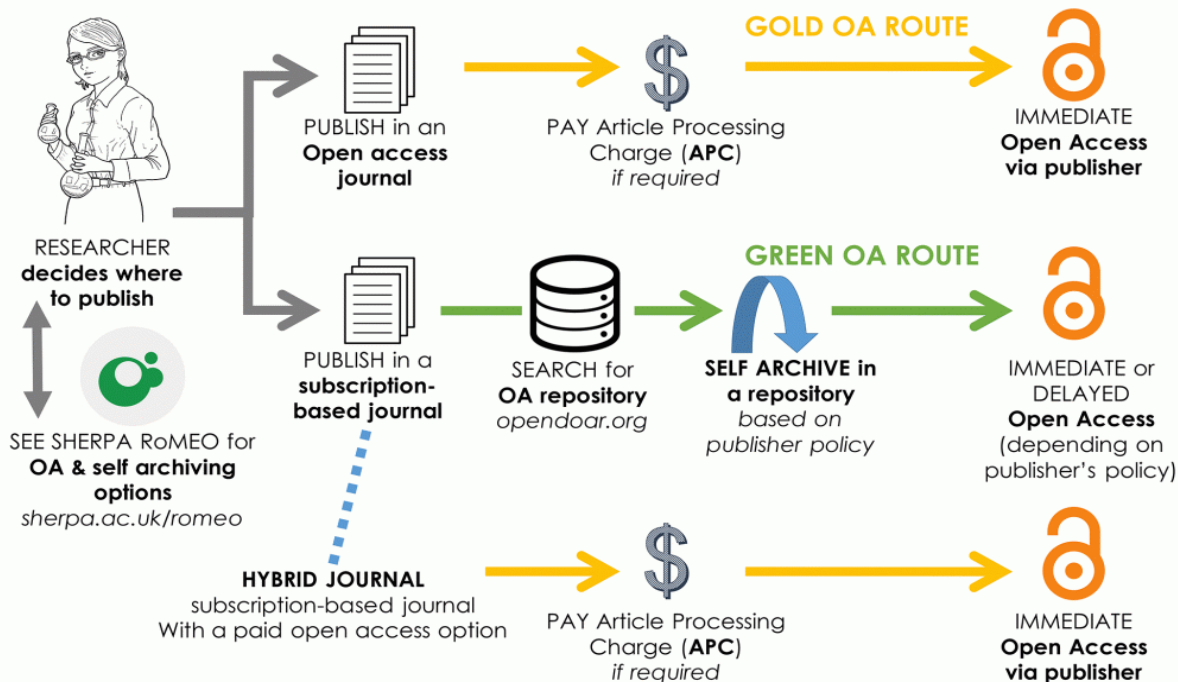


5 Predictions For The Future Of Scientific Publishing

1) More Open Access

Expansion of Open Access Models

Open Access Publishing



5 Predictions For The Future Of Scientific Publishing

2) Faster Publishing Through Preprints

Growth of Preprint Platforms

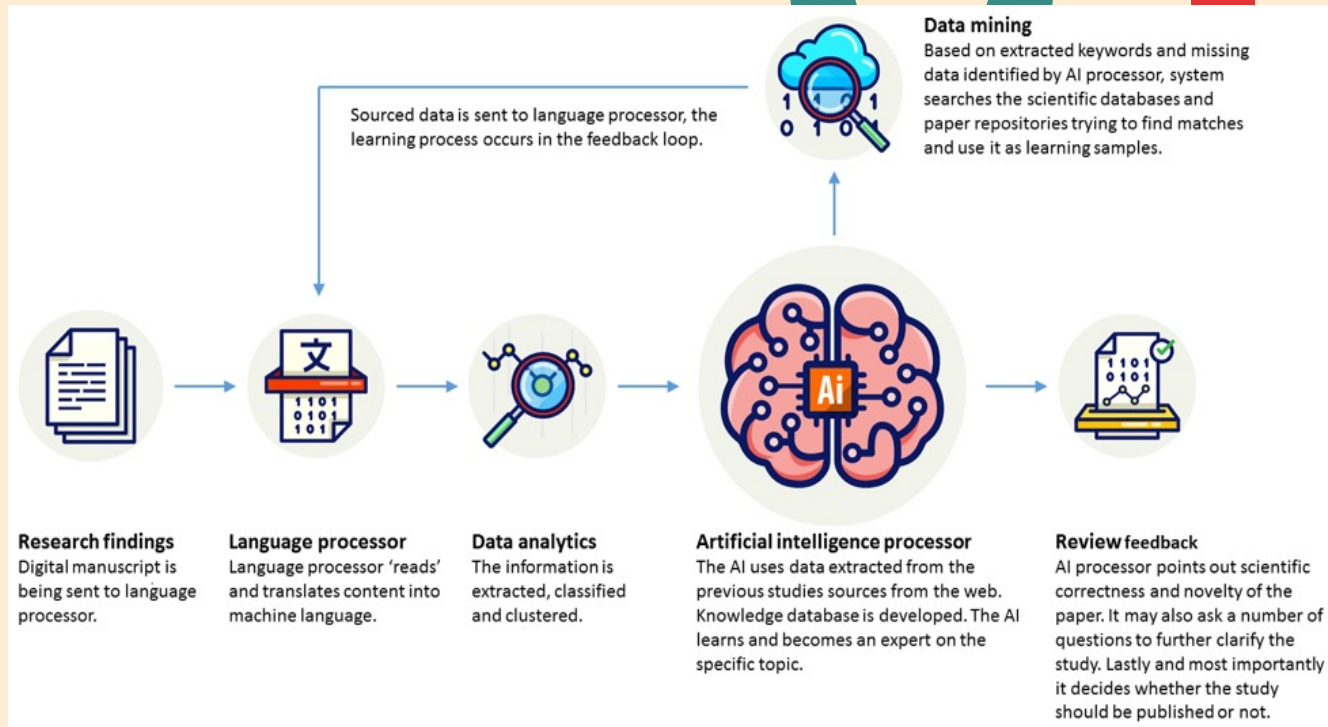
List [edit]

| Name | Discipline(s) | Description | Size | Created | Provider(s) |
|---------------------------|----------------------|--|-------------------------------|---------------------|--|
| AAS Open Research | Multidisciplinary | At least one of the authors must be affiliated with the African Academy of Sciences | 251 | 2018 | African Academy of Sciences & F1000 Research Ltd |
| AMRC Open Research | Medicine | At least one of the authors must be affiliated with AMRC member charities | 45 | 2019 | Association of Medical Research Charities & F1000 Research Ltd |
| agriRxiv | Agriculture | Global preprint service for agriculture and allied sciences | 418 | 2017 | Open Access India & CAB International |
| APSA Preprints | Political science | Early research outputs in political science and related disciplines | 349 | 2019 | American Political Science Association & Cambridge University Press |
| mp_arc | Mathematical physics | Main focus: mathematics, physics | 9779 | 1991 (10 July)-2023 | University of Texas at Austin, Università Roma Tre, Universitat de Barcelona |
| arXiv ^[1] | Multidisciplinary | Mair sciELO Preprints Interdisciplinary research for Latin America, Iberian Peninsula, South Africa | 13,713 | 2020 | SciELO |
| AfricArXiv ^[3] | Multidisciplinary | Preg ScienceOpen A research and discovery network allowing scholars with at least 5 publications to freely review preprints. | 2,200,000 | 2013 | ScienceOpen |
| Arabixiv | Multidisciplinary | Ara SocArXiv Open archive of the social sciences | 12,880 (2023) ^[26] | 2016 | Center for Open Science |
| ARPHA Preprints | Multidisciplinary | The ARF SportRxiv Repository dedicated to sport and exercise related research | 279 | 2017 | Center for Open Science |
| Authorea ^[4] | Multidisciplinary | A co prep SSRN (First Look) Aggregates over 30 preprint servers (Preprints with The Lancet, Cell Sneak Peek, etc.). More than 55 disciplines. Initially funded by SSRN in 1994, bought in 2016 by Elsevier. | 950,733 | 1994 | Elsevier |
| Beilstein Archives | Multidisciplinary | Preg BioRxiv Preprints in Technology Research | 1,043 | 2020 | Institute of Electrical and Electronics Engineers |
| BioHackXiv | Life Sciences | Preg bioRxiv ^[6] Mainly physics and mathematics, but also other. | 37,113 | 2009 | Scientific God Inc. |
| bioRxiv ^[6] | Biology | Ope Vixra ^[27] An alternative to arXiv. Well-known for also having many unorthodox papers and also fringe science. | 820 | 2017 | Wellcome Trust |
| BodoArXiv | Medieval Studies | Ope Wellcome Open Research At least one of the authors must be a Wellcome researcher | 52 | 2017 | WikiJournal User Group |
| Cell Sneak Peek | Biology | Man WikiJournal Preprints Preprint repository of scholarly work in a MediaWiki format | 792,588 | 2011 | OpenAIRE / CERN |
| | | Zenodo Preprint repository of scholarly work | 3,000,000 ^[29] | 2023 | Synthical |
| | | Synthical ^[28] Open access preprint repository for computer science, mathematics, economics, physics, cryptography, biology, and chemistry | | | |

5 Predictions For The Future Of Scientific Publishing

3) Better Peer Review

Technological Support



5 Predictions For The Future Of Scientific Publishing

4) Sharing Data

Mandates for Data Sharing

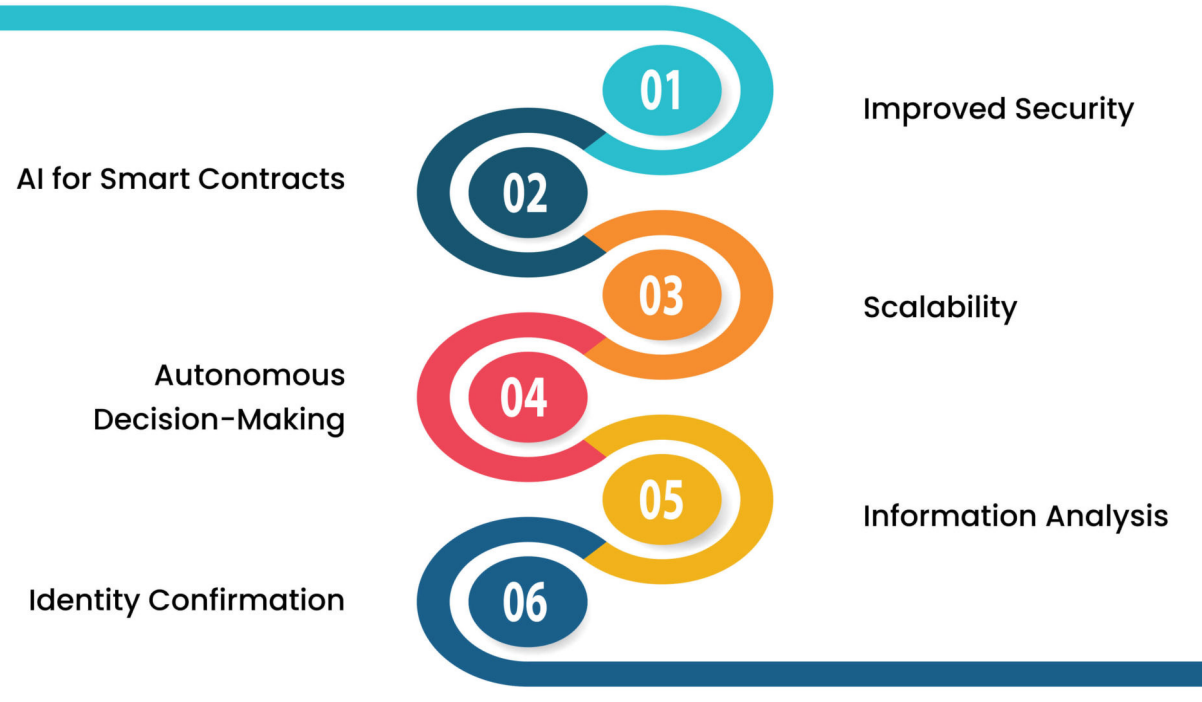


5 Predictions For The Future Of Scientific Publishing

5) New Technologies

Integration of Ai in Publishing , Blockchain for Integrity and Rights Management

Benefits of AI and Blockchain



There is **NO GUARANTEE** that **OPEN
ACCESS WILL** contribute to the
INCREASE of a **RESEARCHER'S**
CITATION and **RESEARCH
VISIBILITY**



However..

The Study of Open Access Continues to Capture Researchers' Interest

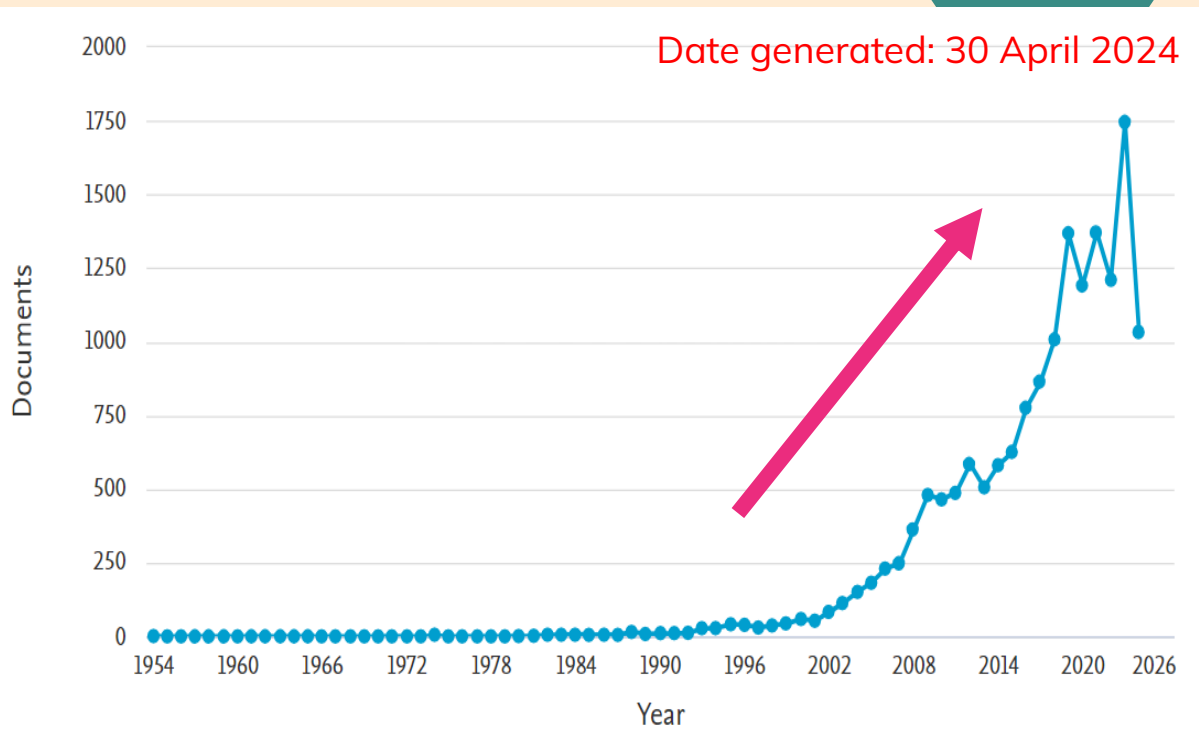
Lets study the publication trends on open access



SCOPUS

PUBLICATION TRENDS ON OPEN ACCESS IN SCOPUS

| Year ↓ | Documents ↑ |
|--------|-------------|
| 2024 | 1033 |
| 2023 | 1746 |
| 2022 | 1211 |
| 2021 | 1371 |
| 2020 | 1193 |
| 2019 | 1366 |
| 2018 | 1008 |
| 2017 | 863 |
| 2016 | 776 |



SCOPUS

SUBJECT AREA DOCUMENTS

Medicine
28,9494

Computer Science
25,8178

Engineering
19,6346

Social Sciences
15,4089

*Biochemistry,
Genetics and
Molecular Biology*
85,336

Mathematics
64,166

*Environmental
Science*
60,340

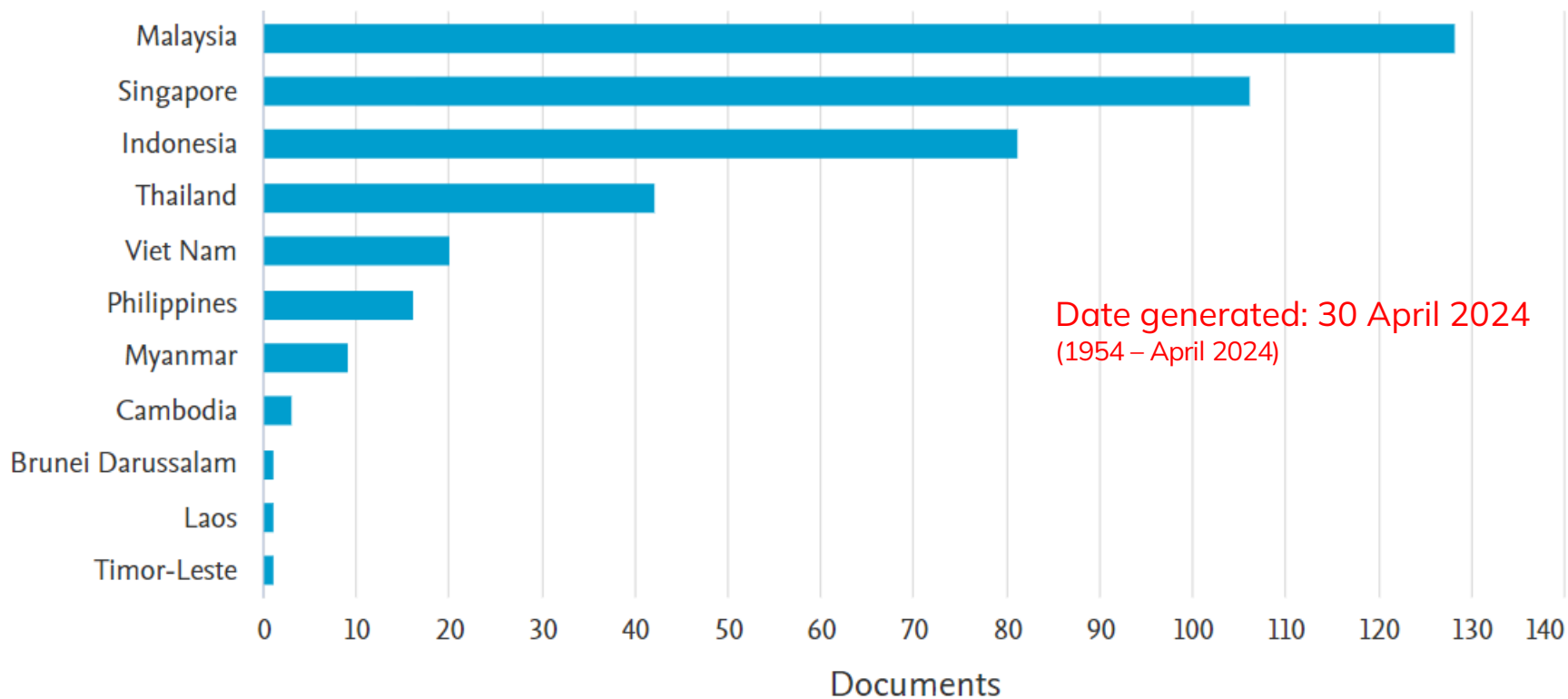
Materials Science
49,614

Scopus®

*Physics and
Astronomy*
48,555

*Agricultural and
Biological
Sciences*
45,650

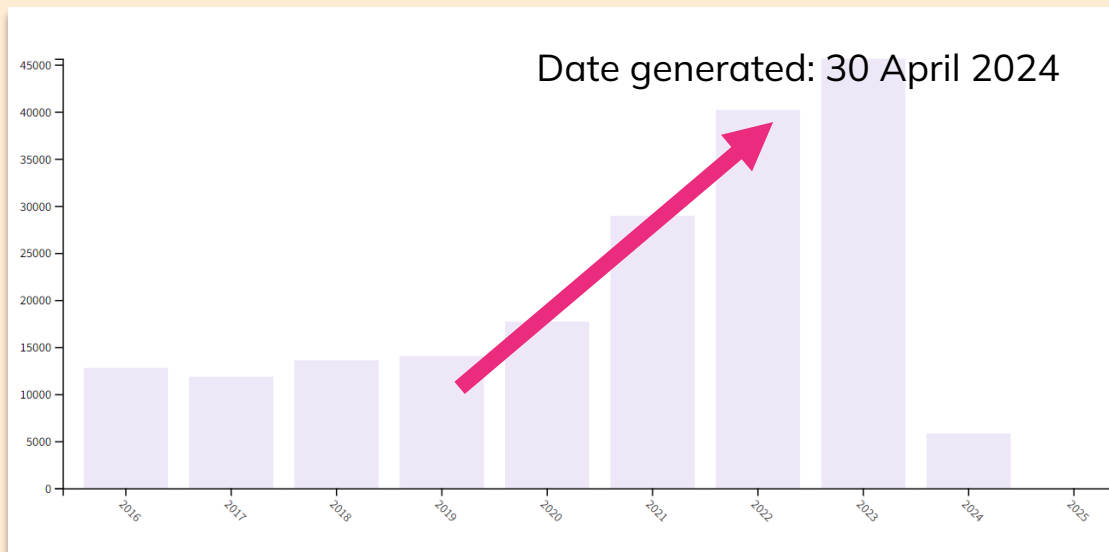
PUBLICATION TRENDS ON OPEN ACCESS IN SCOPUS – SOUTH EAST ASIA



WoS

PUBLICATION TRENDS ON OPEN ACCESS IN WEB OF SCIENCE

| Select All <input type="checkbox"/> | Field: Publication Years | Record Count |
|--|-----------------------------|--------------|
| <input type="checkbox"/> | 2025 | 7 |
| <input type="checkbox"/> | 2024 | 5,795 |
| <input type="checkbox"/> | 2023 | 45,628 |
| <input type="checkbox"/> | 2022 | 40,176 |
| <input type="checkbox"/> | 2021 | 28,938 |
| <input type="checkbox"/> | 2020 | 17,691 |
| <input type="checkbox"/> | 2019 | 14,042 |
| <input type="checkbox"/> | 2018 | 13,583 |
| <input type="checkbox"/> | 2017 | 11,846 |
| <input type="checkbox"/> | 2016 | 12,779 |
| <input type="checkbox"/> | 2015 | 13,155 |
| <input type="checkbox"/> | 2014 | 7,819 |



WoS

SUBJECT AREA DOCUMENTS

Materials Science
Multidisciplinary
15,763

Computer Science
Information Systems
10,538

Engineering Electrical
Electronic
10,133

Multidisciplinary
Sciences
9,065

Energy Fuels
8,555

Computer Science
Theory Methods
8,241

Surgery
7,619

Public Environmental
Occupational Health
7,116

Engineering
Multidisciplinary
6,652

Telecommunication
6,322



| Countries | Total document index in WoS |
|-----------------|-----------------------------|
| 1. Malaysia | 2,823 |
| 2. Singapore | 2,122 |
| 3. Indonesia | 1,759 |
| 4. Thailand | 1,513 |
| 5. Vietnam | 949 |
| 6. Philippines | 437 |
| 7. Cambodia | 71 |
| 8. Myanmar | 67 |
| 9. Brunei | 52 |
| 10. Laos | 40 |
| 11. Timor Leste | 6 |



ISSUES ON OPEN ACCESS

When considering the **quality of research published as open access but receiving low citation rates**, several factors might contribute to this outcome.

It's essential to distinguish between the visibility and accessibility of open access articles versus their citation impact or perceived quality within the academic community.

Open Access vs citation index

OPEN ACCESS VS LOW CITATION

01

Field Specificity

The research might be highly specialized or focused on a niche topic within a particular field.

02

Visibility Challenges

limited promotion & language barriers

03

Publication Timing

The timing of publication can influence citation rates.

04

Competition and Saturation

If the topic is saturated with existing literature or if similar studies



UNIVERSITI
MALAYA

Universiti Malaya Case Study

Open access vs visibility vs citation



Universiti Malaya Kuala Lumpur was established in 1962. Universiti Malaya (UM) is one of the top public universities in Kuala Lumpur, Malaysia.

STUDENTS & STAFF

Total students

17,159



● UG students

70%

● PG students

30%

International students

3,969



● UG students

17%

● PG students

83%

Total faculty staff

2,415



● Domestic staff

78%

● Int'l staff

22%



#=65 in QS World

132 QS
Sustainability
Ranking

#3 Asian
University
Rankings - South
Eastern Asia



INDICATOR

(total Publication and
citations, H- index)

Wos

Scopus

| INDICATORS | FACTS |
|---|---------------------------------|
| Total article in Web of Science (Until April 2024) | 65,914 Documents |
| Total Open access article (OAA) | 24,562 Documents |
| Total citation for OAA – sort by oldest : 1970 | 17 Citations / 87 References |
| Total citation for OAA – sort by Newest - Dec 31 2024 | 0 citation / 68 References |
| Most citation all time for OAA - Nov 10 2018 | 4,773 Citations / 92 References |

CITATION REPORT ANALYSES 2023 - 2024

Publications

2,629

Total

From 1970 ▾ to 2024 ▾

Citing Articles

4,215 Analyze

Total

4,006 Analyze

Without self-citations

Times Cited

4,471

Total

4,206

Without self-citations

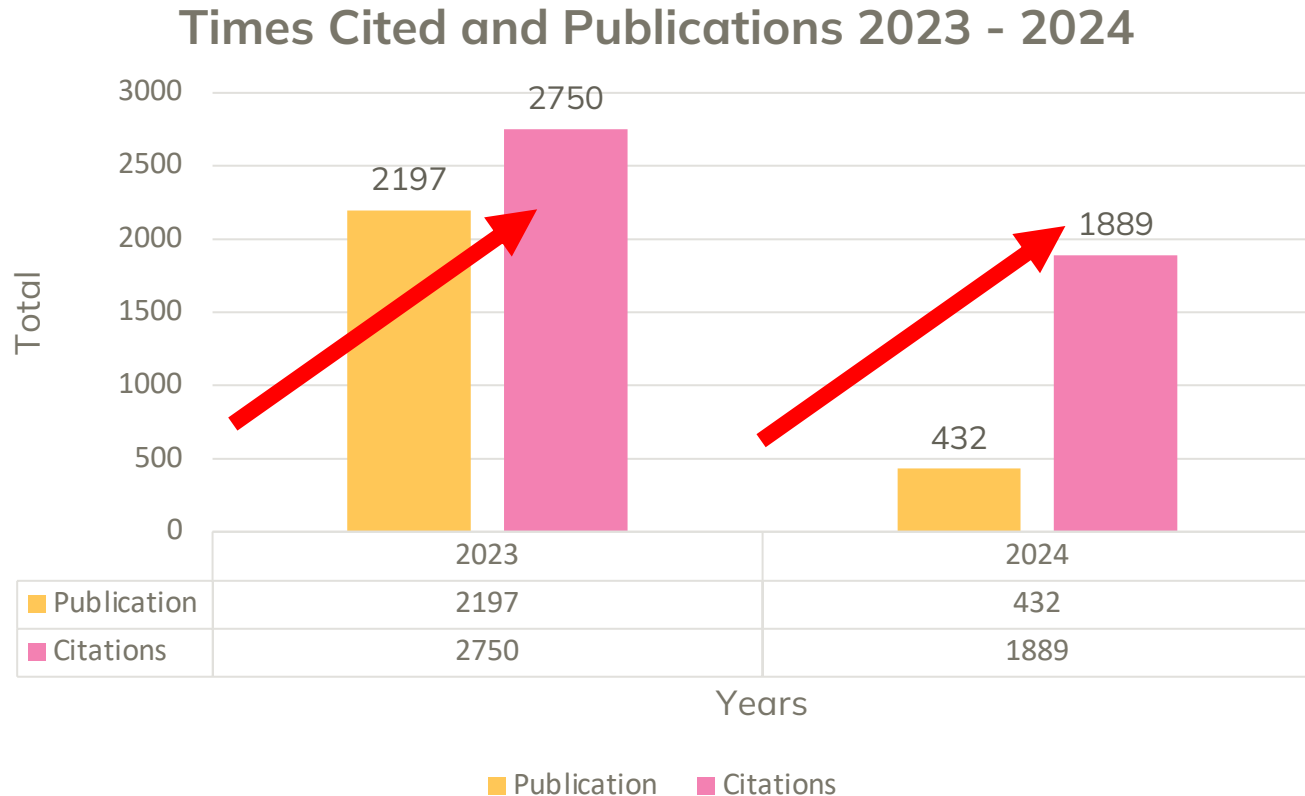
1.7

Average per item

22

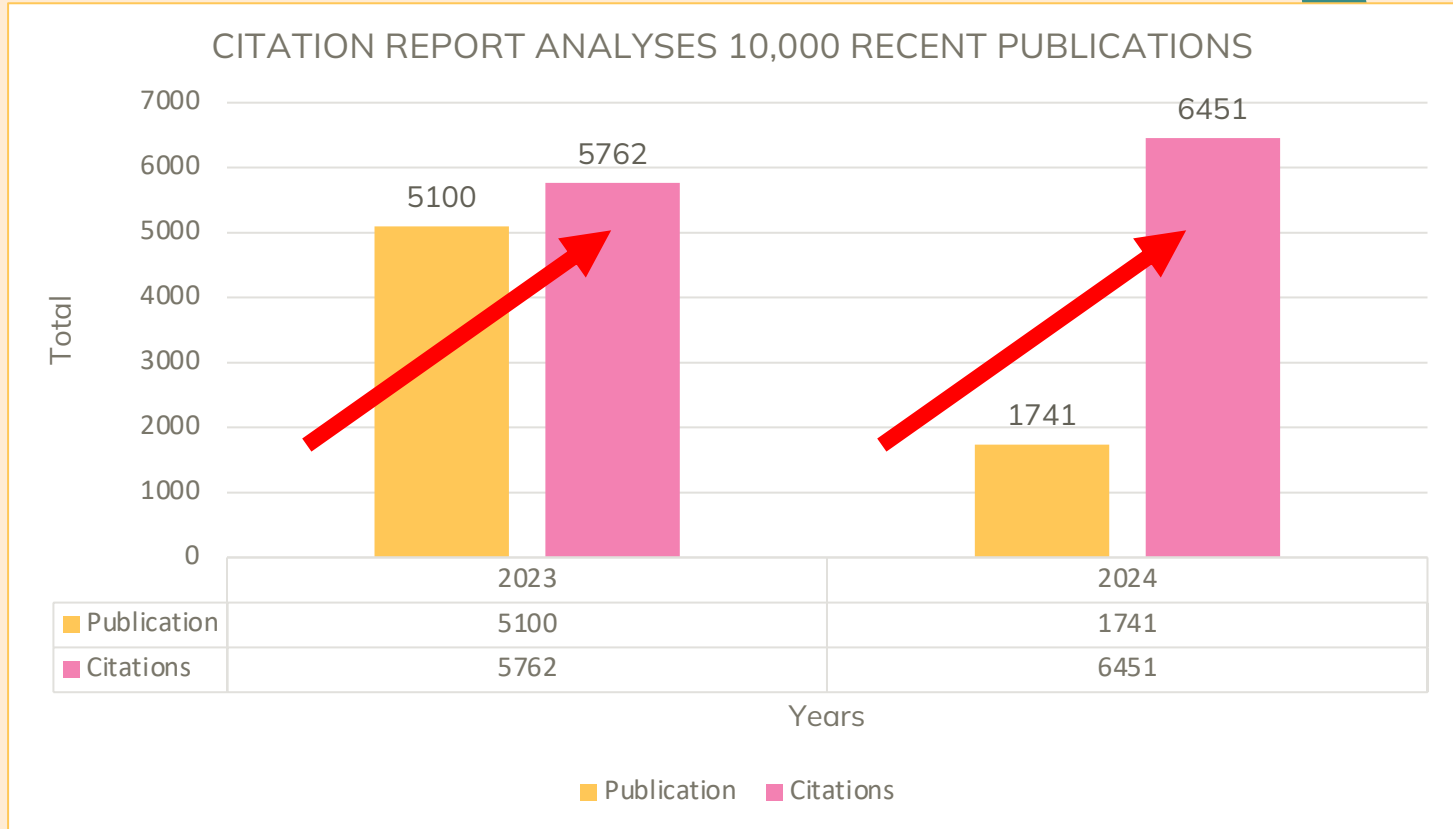
H-Index

[Export Full Report](#)



Scopus

| INDICATORS | FACTS |
|---|-------------------------|
| Total article in Scopus (Until April 2024) | 74,654 Documents |
| Total Open access article (OAA) | 27,566 Documents |
| Total citation for OAA – sort by oldest : 1950 | 2 Citations |
| Total citation for OAA – sort by Newest - Dec 2024 | 0 citation |
| Most citation all time for OAA - 2018 | 8,410 Citations |



**There is evidence that OA does affect the
number of citations in recent years for
Universiti Malaya**



OA VS CITATIONS

To improve the citation impact of high-quality open access research, authors and publishers can consider the following strategies:

1. Strategic Promotion:

Actively promote the article through various channels, including social media, academic networks, and conferences.



Ikhwan Ismail
March 20 · 6

Another bibliometric paper was published and indexed in WOS (Q4) and SCOPUS, and it was collaborated with UNIMAP, USM and UMK researchers. Congratulations and thanks to Arshad, Dr Hafiza Shukor, Dr Muaz Zaini, Dr Amira Sue, Dr Dan Shafiq and other co-authors. I look forward to collaborating with all of you again in the near future.

Please read and cite:

Amin, M. A., Shukor, H., Mohd Zaini Makhtar, M., Ismail, M. I., Yaakop, N. A. S., Shafiq, M. D., & Shoparwe, N. F. (2024).... See more

Sains Malaysiana 53(3)(2024): 635-651
<http://doi.org/10.17576/jsm-2024-5303-12>

Bibliometric Analysis on Biobutanol Production Research Trends from 2010-2022 using Scopus Database
(Analisis Bibliometrik mengenai Tren Penyelidikan Pengeluaran Biobutanol dari 2010-2022 menggunakan Pangkalan Data Scopus)

MUHD ARSHAD AMIN*, HAFIZA SHUKOR**, MUAZ MOHD ZAINI MAKHTAR*, MOHD IKHWAN ISMAIL*, NUR AMIRA SUEATI YAAKOP*, MOHAMAD DANIAL SHAFIQ* & NOOR FAZLIANI SHOPARWE*

*Faculty of Chemical Engineering Technology, Universiti Malaysia Perlis, 02600 Arun, Perlis, Malaysia
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*Bioprocess Technology Division, School of Industrial Technology, Universiti Sains Malaysia, Gelagar 11800, Pulau Pinang, Malaysia

*Hamzah Senda Library, Universiti Sains Malaysia, 11800, Pulau Pinang, Malaysia
*School of Biological Science, Universiti Sains Malaysia, 11800 Penang
*School of Material and Mineral Resources Engineering, Engineering C
Nibong Tebal, Po
*Faculty of Bioengineering and Technology



Vera Awele Adibi contributed to this collaborative article

What do you do if patrons are constantly arguing over limited resources in the library?

4 expert answers

Patron Engagement



Vera Awele Adibi • 1st
LIBRARIAN | DOCUMENT MANAGEMENT SPECIALIST | WEB CONTENT MANAGER

According to the law of the library, "There is a book for every reader." Understanding the needs of library patrons is a key factor in the collection development process at the library. Engaging the library patrons c ...see more

Like · 2



Add your perspective to 'Patron Engagement'



☰

YouTube ^{MY}

important of work performance

✕

🔍

🎤

🏠

📺

📖

📺

📺

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28K views • 2 years ago

HR University

If you want to get more out of your employees, you need to know how to help them improve their performance. A per...

CC

WHAT IS PERFORMANCE MANAGEMENT? | GENERAL APPRAISAL | 360-DEGREE... 9 moments ▾

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What do Leaders...

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Home

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You

Shorts

OA VS CITATIONS

2. Collaborative Outreach:

Foster collaborations with researchers and institutions interested in the topic to enhance visibility and engagement.



Collaboration

SUBJECT AREA DOCUMENTS

Medicine
28,9494

Computer Science
25,8178

Engineering
19,6346

Social Sciences
15,4089

Biochemistry,
Genetics and
Molecular Biology
85,336

Mathematics
64,166

Environmental
Science
60,340

Materials Science
49,614

Scopus®

Physics and
Astronomy
48,555

Agricultural and
Biological
Sciences
45,650



OA VS CITATIONS

3. Engage with the Community:

Participate in discussions, forums, and workshops related to the research area to increase awareness and stimulate interest.



Ar
Al-Falah Rich Resources

Register Now!!

WEBINAR IN ENGLISH (PLATFORM: GOOGLE MEET)

QUALITATIVE RESEARCH & ATLAS.ti
28 APRIL 2024 | SUNDAY | 9 AM - 5 PM

Dr. Syafizal Shahruddin
Universiti Sains Malaysia (USM)

Dr. Sharifah Nur Aina Syed Alwee
Universiti Teknologi Mara (UITM)

HIGHLIGHTS:

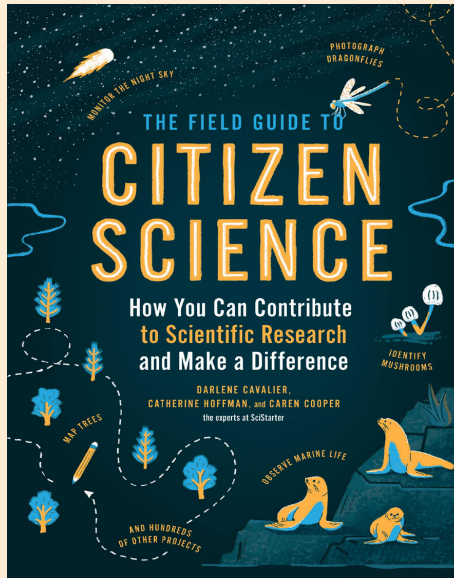
- What is qualitative paradigm?
- How to apply theory in qualitative research?
- Conceptual or theoretical framework?
- What is the formula for sampling & data collection method?
- How to validate data for qualitative research?
- How to run ATLAS.ti for analysis purpose?

WEBINAR FEE: RM 100

All participants will receive notes, recording, e-certificate and voucher

IN COLLABORATION WITH

UTM GRES
REKOLABET KUALA BERU
DSG
DOCTORAL SUPERVISOR CIRCLE



PHOTOGRAPH DRAGONFLIES

WINDSON THE NIGHT SKY

THE FIELD GUIDE TO
CITIZEN SCIENCE

How You Can Contribute to Scientific Research and Make a Difference

DARLENE CAVALIER, CATHERINE HOFFMAN, and CAREN COOPER
the experts at SciStarter

IDENTIFY MUSHROOMS

OBSERVE MARINE LIFE

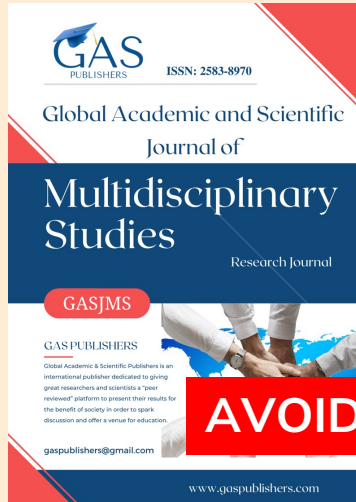
AND HUNDREDS OF OTHER PROJECTS



OA VS CITATIONS

4. Enhance Discoverability:

Ensure the article is indexed in relevant databases and repositories frequented by researchers in the field.



AVOID MULTIDISCIPLINARY JOURNAL



AN INSTITUTIONAL DIGITAL REPOSITORY

UM RESEARCH REPOSITORY

PROVIDED BY THE LIBRARY

[Home](#) [About](#) [Browse](#)

[Login \(Repository staff only\)](#) | [Repository Statistics](#)

Welcome to UM Research Repository

The **Universiti Malaysia Research Repository** is an institutional digital repository of published and unpublished research work produced by the UM researchers provided by [The Digital Scholarship and Information Commons](#).

 Atom  RSS 1.0  RSS 2.0

Additional information

1. The login account is only for the repository staffs. The user do not need an account to access the document.
2. Most of the items in this repository is available to be accessed for the user, unless it is embargoed for a certain period or restricted due to copyright issue.

[Search Repository](#)

Search the repository using a full range of fields. Use the search field below for a quick search.

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Many kinds of information stored in the IRs are easily retrievable.

OA VS CITATIONS

5. Long-Term Impact:

Recognize that citation impact can evolve over time. Continued relevance and impact may become more apparent as the field evolves and the research gains recognition.





WHY SHOULD I CARE?

Open Access

WHY SHOULD I CARE?

In general when information is freely available, everyone wins.

1. **Researchers get all of the information they need.**
2. **Students can enjoy unrestricted access** to necessary educational tools.
3. **Libraries do not have to make tough choices on which journals to subscribe to.**
4. **Scientists in low or middle income countries can contribute competitive research.**



What are the benefits?



Researchers



Educational Institutions



Students

OPEN ACCESS FACT SHEET



Researchers

1. Increases readers' ability to find use relevant literature
2. Increases the visibility, readership and impact of author's works
3. Creates new avenues for discovery in digital environment
4. Enhances interdisciplinary research
5. Accelerates the pace of research, discovery and innovation

OPEN ACCESS FACT SHEET



Educational Institutions

1. Contributes to core mission of **advancing knowledge**
2. **Democratizes access across all institutions** – regardless of size or budget
3. **Provides previously unattainable access** to community colleges, two-year colleges, K-12 and other schools
4. Provides **access to crucial STEM materials**
5. **Increases competitiveness** of academic institutions

OPEN ACCESS FACT SHEET



Students

1. Enriches the **quality of their education**
2. Ensures **access to all that students need to know, rather what they (or their school) can afford**
3. **Contributes to a better-educated workforce**

The Role of Open Access in Shaping the Future of Scientific Publishing

Open Access (OA) has the potential to significantly shape the future of scientific publishing by revolutionizing the way research is disseminated, accessed, and utilized.



1. ACCESSIBILITY

Open access **removes barriers to accessing scientific research** by making articles freely available online.

This accessibility is crucial for researchers, students, policymakers, and the general public who may not have access to expensive journal subscriptions.



Key Benefits of Open Access in Relation to Accessibility Include:

Accessible Knowledge Sharing

Eliminates paywalls and subscription barriers

International Networking

Researchers can discover each other's work more easily

Enhanced Public Engagement and Impact

Enables broader public engagement with research outcomes.

Data Sharing and Reproducibility

Shared access to research data enhances transparency, reproducibility



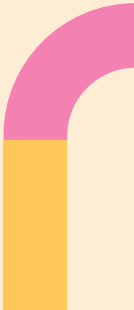




2. GLOBAL COLLABORATION

Open access encourages collaboration among researchers worldwide.



By removing financial barriers, researchers from low-income countries can access the same knowledge resources as those from wealthier countries, fostering global collaboration and accelerating scientific progress.



HERE'S HOW GLOBAL COLLABORATION BENEFITS FROM OPEN ACCESS

Global Reach

Support SDG/
Developing country

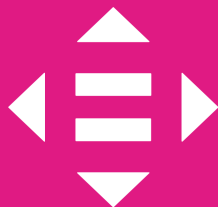
1 NO
POVERTY



4 QUALITY
EDUCATION



10 REDUCED
INEQUALITIES



11 SUSTAINABLE CITIES
AND COMMUNITIES



HERE'S HOW GLOBAL COLLABORATION BENEFITS FROM OPEN ACCESS

Inclusivity

- Promotes inclusivity by removing financial barriers that can limit access to scholarly literature.
- People with disability to access free information

Less than **10%**
of all published materials
are accessible to blind or
low vision people

Source:
World Blind Union

#MarrakeshTreaty

www.wipo.int/mt

HERE'S HOW GLOBAL COLLABORATION BENEFITS FROM OPEN ACCESS

Dissemination of Knowledge

- Making research readily available to practitioners, policymakers, educators

During pandemic – some of the database are free to use

Easy to cross check law case, or any evidence based medicine

Advancing Research

- Supports innovation, interdisciplinary research, and evidence-based decision-making

Support knowledge production among non academician

Improve decision making among professional

3. INNOVATION


- Open access can spur innovation by **allowing researchers to build upon existing work more easily.**
- When research is freely available, scientists can more readily access and build upon previous findings, leading to faster advancements in various fields.

Improve
empirical
evidence

Improve
research gaps

Expand
hypothesis

Explore new
area of
research setting



HERE'S HOW INNOVATION BENEFITS FROM OPEN ACCESS:

Access to Cutting-Edge Research

Access to top quality publication and research

Interdisciplinary Collaboration

Encourages interdisciplinary collaboration by allowing researchers from different fields to easily discover

Policy and Decision Making

Informs evidence-based policy-making and decision-making processes

Enhanced Reproducibility & Validation

Open access to research data and methods enhances the reproducibility and validation of scientific findings





4. PUBLIC ENGAGEMENT

Open access enables greater public engagement with science.

When research articles are freely available, anyone with an internet connection can access and understand the latest scientific findings, fostering scientific literacy and informed public discourse.



HERE'S HOW PUBLIC ENGAGEMENT BENEFITS FROM OPEN ACCESS:

01

Citizen Science and Participation

Open access encourages citizen science initiatives where members of the public actively contribute to scientific research projects.

02

Education and Lifelong Learning

Open access supports education and lifelong learning by providing free access to educational resources, scholarly articles, and research materials.

03

Cultural and Social Impact

The timing of publication can influence c facilitates the dissemination of research on cultural heritage, arts, humanities, and social sciences. This accessibility promotes cultural preservation.

5. TRANSPARENCY AND REPRODUCIBILITY

Open access promotes transparency and reproducibility in science.

When research articles are freely available, it becomes easier for other researchers to scrutinize and **replicate findings**, which is essential for maintaining the integrity of the scientific process.



6. POLICY IMPACT

- Open access can have a significant impact on policy-making.
- Policymakers can access the latest scientific research relevant to their decision-making processes, leading to evidence-based policy development and implementation.



HERE ARE KEY AREAS WHERE OPEN ACCESS HAS IMPACTED POLICIES:



Research Funding Policies

institutions worldwide have adopted open access policies requiring grant recipients



Institutional Open Access Mandates

These mandates promote visibility of institutional research outputs



National and International Open Access Strategies

Open science movement



Education and Curriculum Development

Open access resources, such as open textbooks and educational materials, support inclusive



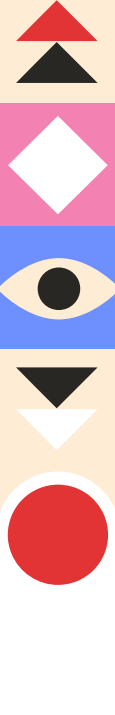
Data Sharing and Transparency Policies

Open access is closely linked to policies promoting data sharing and transparency in research



Cultural Heritage and Preservation Policies


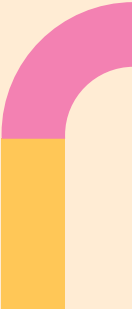
digitization and accessibility of cultural heritage materials, archival collections, and historical documents





7. Evolution of Publishing Models



- The rise of open access has prompted traditional publishers to reconsider their **business models**.
 - Many publishers now **offer hybrid models** or fully open access options to accommodate the changing landscape of scientific publishing.
- 
- 

Here's how the evolution of publishing models has intertwined with the rise of open access:

Traditional Subscription-Based Model

Early Era: Historically, academic publishing operated on a subscription-based mode

Hybrid Models and Transformative Agreements

- **Hybrid OA:** Some traditional subscription-based journals offer authors the option to make individual articles openly accessible upon payment of APCs.
- **Transformative Agreements:** Institutions negotiate transformative agreements with publishers to transition subscription journals to full open access while controlling costs.

Introduction of Open Access

Open access emerged as a response to the limitations of traditional publishing models. The Budapest Open Access Initiative in 2002 and subsequent declarations advocated for unrestricted online access to scholarly research.


Green and Gold Open Access

authors self-archived & article processing charges



NEW PUBLISHING MODELS?

Technological Innovations and Dissemination Platforms

1. **Preprint Servers:** Platforms like arXiv, bioRxiv, and SSRN allow researchers to share early versions of their research openly before peer review.
 2. **Open Access Platforms:** Initiatives like PLOS, DOAJ, and Open Library of Humanities provide sustainable open access publishing platforms that prioritize accessibility and transparency.
- 



CONCLUSION

Overall, open access is playing a crucial role in democratizing access to scientific knowledge, fostering collaboration, promoting innovation, and enhancing the transparency and impact of scientific research.

As it continues to grow, it will likely shape the future of scientific publishing in profound ways.

THANKS!

Do you have any questions?

faizal586@um.edu.my
Universiti Malaya Library

