Core Competencies of Scientific Journal Editors: Proficiency in Open Science

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Scientific research is a complex process involving data collection, data analysis, and dissemination of research findings through scholarly communication, such as publication in journals. In scholarly communication, the role of journal editors as gatekeepers is essential. Editorial appointments are often based on administrative duties, with faculty or department heads appointed as editors-in-chief, which can lead to a lack of editorial competence. This paper examines the core competencies required of journal editors to demonstrate editorial professionalism in the era of digital scholarship and open science. The study uses a questionnaire to collect data. A total of 79 responses were received from participants, including editors-in-chief and associate editors of Malaysian journals indexed in the WoS or Scopus databases. Most respondents gave positive responses in the four identified areas of core competencies. However, the lowest ratings were in areas related to open science, specifically open access, open peer review, and open data. The results are important for understanding editors' skills in open research. The findings would be helpful in developing training modules for scientific editors based on the identified core competencies.

Keywords: Scientific editors, Core competencies, Editor's role, Digital scholarship, Open science

INTRODUCTION

Scientific journal editors play an essential role in the publication of scientific research within scholarly communication. Their responsibilities include providing expertise in their specialist area, reviewing submitted manuscripts, advising on journal policy and scope, identifying topics for special issues, recommending conferences to promote the journal, and attracting both new and established authors and article submissions. Scientific editors manage the review and publication process and have responsibilities towards the authors, publishers, and reviewers. Open Science is a global movement aimed at making scientific research more transparent, accessible, reusable, inclusive, and collaborative (UNESCO, 2023).

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Journal editors are key enablers of Open Science, as their commitment determines how effectively Open Science principles are implemented in the dissemination of research outputs within scholarly communication. Open Science aims to improve the accessibility, reproducibility, and integrity of research results. Therefore, editors' responsibilities intersect directly with Open Science practices, fulfilling a critical gatekeeping and stewardship role in the scholarly communication system. Editors can contribute by supporting open access publishing, advocating open data through data availability statements, enabling open peer review, and recognising open research practices, for example, by displaying open science badges on published articles (Moylan, 2022).

Although the roles and responsibilities of editors have been documented in several publications (Fontes & Menegon, 2021; Galipeau et al., 2016; Galipeau et al., 2017; Matarese & Shashok, 2018; Moher et al., 2017), research examining the editors' professionalism and competency, particularly regarding their current position in Open Science, is scarce. To better understand how scientific editors' professional practices align with Open Science principles, this study investigates the core competencies required for scientific editors to become proficient in Open Science, aiming to enhance their ability and knowledge in managing journals.

LITERATURE REVIEW

Digital scholarship broadens traditional research methods by employing digital tools and technologies to enhance the research process. These include collaborative platforms that facilitate communication and knowledge sharing among researchers, fostering a more inclusive and interconnected research community in support of Open Science. The Open Science principles encompass open access, open data, and open peer review, as outlined in the Open Science agenda, to make various elements of the research process, such as methodology, data, and results, available for others to access, use, and build upon, thereby promoting transparency and reproducibility.

Scientific editors should have knowledge of research methodology, publication ethics, and misconduct. These are the types of skills that are required for the peer review process and for the protection of publication integrity. This aligns with standard practice, in which journal editors are appointed from among the faculty members who are active and highly regarded researchers in the academic community and are familiar with the publication process. The appointment of an academic editor is sometimes based on administrative duties, such as appointing the faculty head as editor-in-chief. This practice can lead to editors who lack editing skills and capabilities, whether due to inadequate planning, excessive workloads for editors, reviewers, and publishers, or insufficient support from technical and human resources. Scientific editors are experts in reviewing articles in their field but may lack the knowledge and skills required for

routine editorial tasks. Nevertheless, these editors often develop and improve their editorial skills through mentoring from senior or former editors. Some acquire skills through their own experiences as reviewers and authors, which may leave them with insufficient editorial expertise to become proficient scientific editors. However, the situation is different in countries where most journals are published by large publishers or established research associations (Fontes & Menegon, 2021).

Galipeau et al. (2017) reported the need to provide training for scientific editors, including statistical analysis, research methods, publication ethics, recruiting and managing peer reviewers, and journal indexing. However, the study did not address recent advances in digital science and open science, including open data, open peer review, open access, and the use of social media platforms as standard practice. As appropriate training for editorial work must be provided continuously to enhance editors' knowledge and skills, developments in scholarly communication, such as open and digital scholarship, should be considered. However, before an appropriate training module for editors can be developed, the core competencies of editors must be identified to enable them to fulfil their editorial roles effectively.

Competence is a combination of formal education and daily experience in a complex context (Fontes & Menegon, 2021). Several studies have aimed to create a comprehensive list of journal editors' competencies. In the biomedical field, Galipeau et al. (2016, 2017) identified core competencies for scientific editors of biomedical journals through a systematic review. The results formed the basis for developing specific competency-based training and certification for scientific editors of biomedical journals. Similarly, Moher et al. (2017) developed a set of 14 core competencies for scientific editors of biomedical journals. The 14 key core competencies are divided into three main areas, with each competency accompanied by a list of associated elements or descriptions of more specific knowledge, skills, and attributes that contribute to its fulfilment. Matarese and Shashok (2018) proposed a set of core competencies for journal editors that can serve as a resource for training programmes for editors and ultimately improve the quality of biomedical research literature. Fontes and Menegon (2021) reported on current and future competencies of journal editors-in-chief in a broader contemporary context of the scientific business model.

Previous research has identified a set of required competences for scientific journal editors, which can be broadly categorised as: i) competences as a researcher to oversee the essential elements of scientific research; ii) competences in scientific publishing, including publication ethics and research integrity; iii) social or soft skills in dealing with authors and reviewers and promoting journals through various media, including social media; and iv) competences related to open science, such as open access, open peer review, and open data.

The literature indicates that studies on editors' competence typically focus on specific subject areas, such as medicine (Clemow 2018a, 2018b) and biomedicine (Galipeau et al., 2017; Moher et al., 2017). Studies extending beyond biomedical journals are limited. The lack of previous research on the competence of journal editors, particularly regarding open science, highlights the originality of this work.

METHODOLOGY

Objective

The main objective of the study was to assess the importance of scientific editors' competencies in managing Malaysian journals in line with the open science initiative. A quantitative approach was used, employing a survey research design. The questionnaire was developed based on the results of relevant studies found after an extensive literature review, including Moher et al. (2017), Collier (2011), Verderame et al. (2018), Galipeau et al. (2016), Galipeau et al. (2017), Wong and Callaham (2012), Heisel-Stoehr and Schindler (2012), Ross-Hellauer and Gorogh (2019), and Segado-Boj, Martín-Quevedo, and Prieto-Gutiérrez (2022). The questionnaire comprised two sections with 86 item statements and one open question (see appendix). It was written in English, and all statements were measured on a 5-point Likert scale. The competency-related statements were categorised into four core competency areas for the scientific journal editors, including:

- i.   Competency as a researcher (Moher et al., 2017; Collier, 2011)
          Editor qualities and characteristics
- ii.   Competencies in scientific publishing (Galipeau et al., 2016; COPE, 2011)
          Editing journals
          Journal publishing
          Publishing ethics and research integrity
- iii.   Social Competency (Galipeau et al., 2016, Galipeau et al., 2017)
          Dealing with authors
          Dealing with peer reviewers
          Promoting journals
- iv.   Competencies related to Open Science (Ross-Hellauer & Görögh, 2019)
          Open access
          Open peer review
          Open data

The research employed a questionnaire distributed to Malaysian journal editors to identify their core editorial competencies. According to the Malaysian Journal Website (http://www.myjurnal.my), there are 1,137 Malaysian academic journals, of which 9.23% (105) are indexed in Scopus; 1.14% (13) are indexed in the Web of Science Core Collection (Science Citation Index Expanded (SCIE), Social Sciences

Citation Index (SSCI), and Arts & Humanities Citation Index (A&HCI)); and 5.8% (66) are indexed in the Emerging Sources Citation Index (ESCI). For this study, the editors-in-chief or associate editors of 115 Malaysian journals indexed in the WoS or Scopus databases were included. A search of the lists of editors and editorial board members yielded 931 potential respondents. The sample size was calculated as 274, using Sekaran's (2001) sampling size table, which provides a pre-calculated sample size of 274 for a population size of 950, assuming a 95% confidence level and a 5% margin of error. Seventy-nine (79) responses were collected via Google survey forms between 21 January and 16 February 2022, as shown in Table 1. This response rate is exceptionally good for an online survey, as Gravetter and Forzano (2009) noted that the typical response rate for online surveys is only about 18 per cent.

Table 1

Survey Responses

Total population	931
Sample size	274
Incomplete survey	2
Completed survey	79
Response rate	28.8%

The returned questionnaires were analysed using descriptive statistics. Means for the questions were calculated from the numerical values of the scale items, with 1 representing not important and five representing very important. Divergent stacked bar charts and pie charts were used to visualise the percentages for Likert questions.

RESULTS

Demographic Analysis

The demographic composition of the respondents included men (57.7%) and women (42.3%). 41.8% of the respondents were 51 years and older, followed by 41 to 50 years (38.0%) and 31 to 40 years (20.3%). More than two-thirds of the editors had a doctorate (96.2%). 41.8% of the respondents were editors-in-chief, followed by 38.0% as editors/department heads/deputy editors/senior editors. Associate editors accounted for 16.5% of the respondents, and 3.8% were working in other editorial positions, such as executive editor, managing editor, or peer review editor. Respondents had three to five years' experience (38.0%), followed by nine years or more (25.3%), two years or less (20.3%), and six to eight years (16.5%).

Journal Editors' Core Competencies

The findings indicated how the journal editors perceived the importance of the following four main categories of competency.

i.   Competency as a Researcher

Figure 1showsthat good editors should possess a set of qualities and characteristics that portray a researcher's role and responsibility. In general, the respondents rated the qualities and characteristics positively, with mean values in the range 4.3–4.8. The highest percentage was seen for characteristics that involved the editor:

- Act with integrity and accountability (M=4.78; SD=0.52; 82.3% very important).
- Demonstrating decisiveness (firm editorial decisions) when selecting material for its merit, interest to readers, validity of work, and originality (M=4.62; SD=0.61; 67.1% significant).

Slightly lower percentages were for:

- Demonstrating good analytical skills (e.g., factor analysis, thematic and content analysis) (M=4.28; SD=0.71; 40.5% significant).
- Demonstrating practical critical assessment skills (e.g., research design) (M=4.38; SD=0.72; 44.3% significant).

ii.   Competencies in Scientific Publishing

Journal editing

Editors are expected to be equipped with basic journal editing skills, such as those depicted in Figure 2. Malaysian editors rated two certain skills as more important than others (above 68 percent), with mean values above 4.6:

- Editors must ensure papers selected are suitable for the journal (M=4.70, SD=0.54; 73.4% significant).
- Demonstrate the ability to assess the quality of papers (M=4.63, SD=0.58; 68.4% very important).

In contrast, the lowest percentage of importance:

- Demonstrate aptitude in using ICT to perform his/her editorial duties (M=4.05, SD=0.78; 26.6% significant).
- Demonstrate familiarity with the basic concepts of statistics (M=4.05, SD=0.78; 26.6% 34.2 very important).
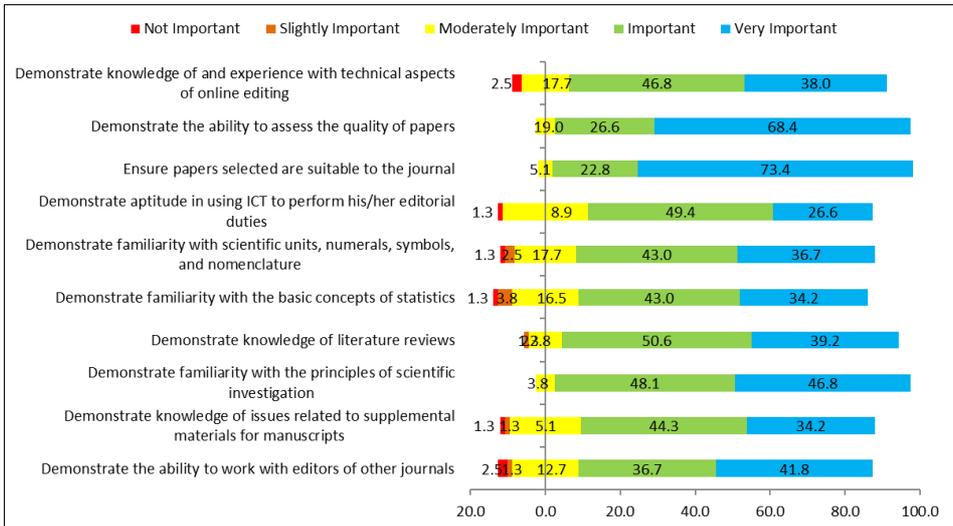- Demonstrate knowledge of issues related to supplemental materials for manuscripts

Figure 1

Editor Qualities and Characteristics
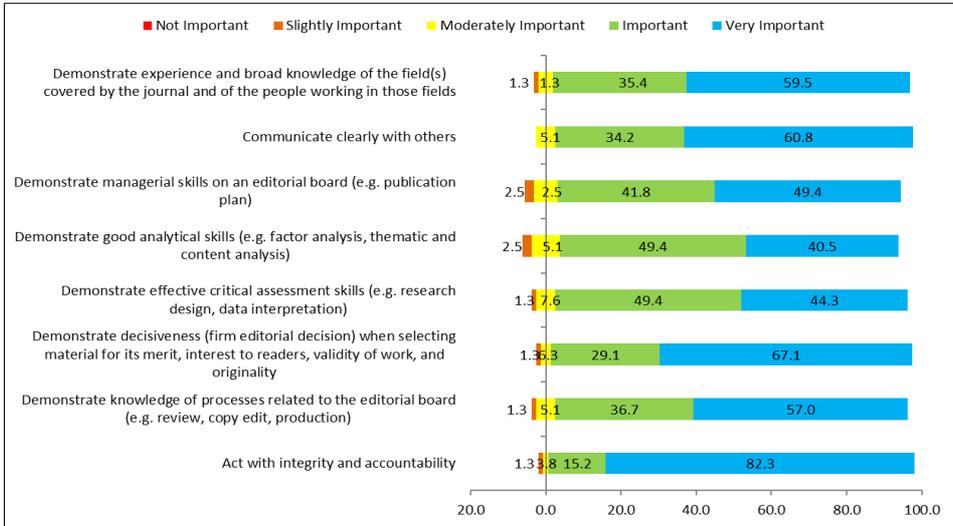
(M=4.05, SD=0.78; 34.2% significant).

Figure 2

Editors on Journal Editing

Journal publishing

Familiarity with the publishing processes also makes editors capable. Figure 3 shows that Malaysian editors rated the importance of two items above the others, with mean values of above 4.4. The most important items show that editors should at least:

- Demonstrate knowledge of the goals of the journal (M=4.57, SD=0.57; 60.8% very important).
- Demonstrate knowledge of the roles and responsibilities of the editorial staff (M=4.48, SD=0.62; 54.4% significant).

On the contrary, only one item was rated with a mean value below 3.6. This item implies that it is less important for editors to:

- Demonstrate knowledge of marketing and advertising policies (M=3.57, SD=1.06; 14% of not important and slightly important).

Publishing Ethics and Research Integrity

Figure 4 shows that editors develop expertise and demonstrate abilities deemed very important in upholding publishing ethics and research integrity. All mean values fall in the range of 4.4 to 4.8. Three items were highly rated, with mean values of 4.7 or higher:

- Ethical editors with integrity should be able to identify and address allegations of fraud or plagiarism (M=4.75, SD=0.49; 77.2% significant).
- Demonstrate expertise in ensuring the ethical integrity of publications (M=4.70, SD=0.52; 72.2% significant); and demonstrate understanding of privacy, confidentiality, and anonymity issues (M=4.70, SD=0.52; 72.2% critical).

On the other hand, two items were rated low, with mean values below 4.4. These items indicate that it is not that important for editors to:

- Demonstrate knowledge of the ethical approval process for research involving humans and animals (M=4.38, SD=0.84; 54.5% significant).
- Separate decision-making from commercial considerations (M=4.38, SD=0.82; 55.7% very important).

Figure 3
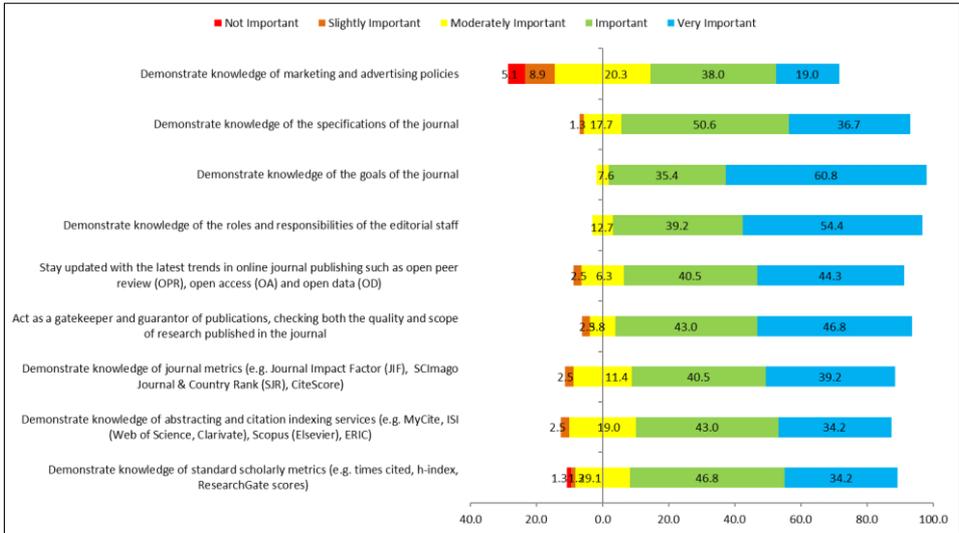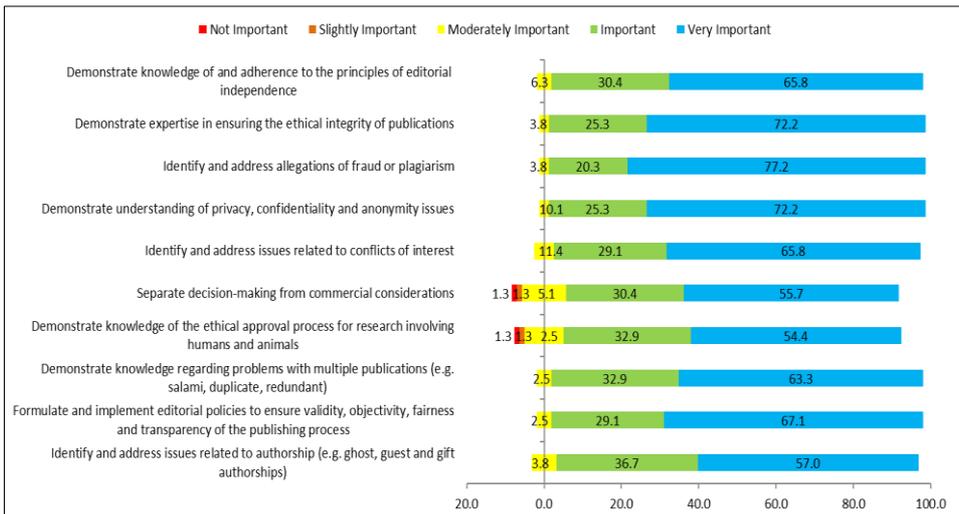
Editors on Journal Publishing

Figure 4

Editors Upholding Publishing Ethics and Research Integrity

iii.   **Social Competency**

     Dealing with Authors

Figure 5 shows what editors do in dealing with authors and their relative importance. Results show that Malaysian editors in general perceived dealing with authors as the most important role, with mean values between 4.4 and 4.7. In dealing with authors, three competency items were scored the highest, with mean values of above 4.6. This indicates the importance of editors to the following skills:

- Act on concerns about plagiarism, data fabrication, or an authorship issue (M=4.68, SD=0.49; 69.6% significant)
- Follow-up with authors and then institutions on concerns about plagiarism, data fabrication, or an authorship issue (M=4.63, SD=0.56; 67.1% significant)
- Demonstrate accountability to authors and ensure they are treated with fairness, courtesy, and objectivity (M=4.63, SD=0.54; 65.8% significant)

In contrast, only one item was rated below 4.5. Apparently, it is only slightly important for editors to:

- engage in critical evaluation of authors' manuscripts and the peer-review process itself (M=4.42, SD=0.73; 53.2% very important).

Figure 5

Editors Dealing with Authors
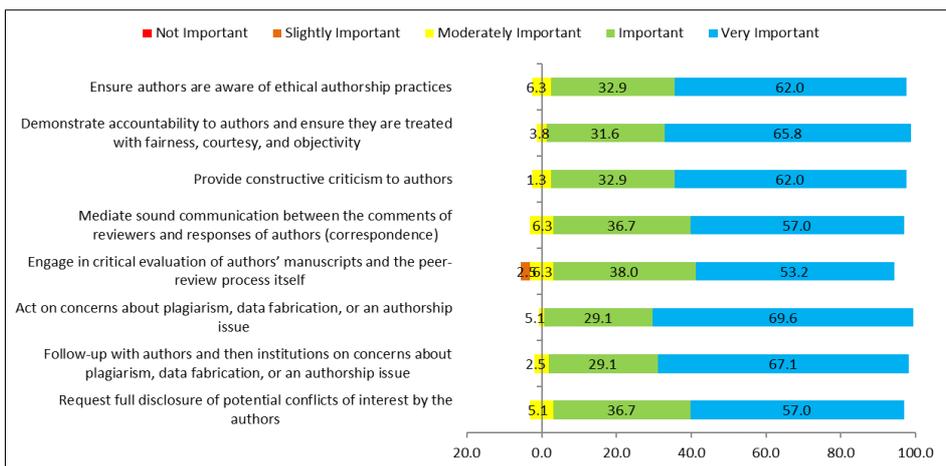
Dealing with the Peer Review Process

Engaging and monitoring peer reviewers is an important role of editors. As seen in Figure 6, all seven items had mean values of between 4.3 and 4.7, with three items generating the highest percentages for being very important:

- Editors must ensure a high standard of referees who are not biased (M=4.67, SD=0.63; 74.7% very important).
- Synthesize reviews and make ultimate editorial decisions in light of peer reviewers' comments (M=4.58, SD=0.61; 63.3% very important).
- Demonstrate publication and reviewing skills and experience (M=4.57, SD=0.61; 62.0% very important).

Two items generated the lower percentages of very important:

- Providing guidance and opportunities to younger reviewers as they have potential for better quality reviews (M=4.25, SD=0.79; 1.3%; 41.8% very important);
- Monitoring and ensuring the timeliness and civility in responding to queries from authors and reviewers (M=4.39, SD=0.65; 46.8% very important).

Figure 6

Editors Dealing with Peer Review
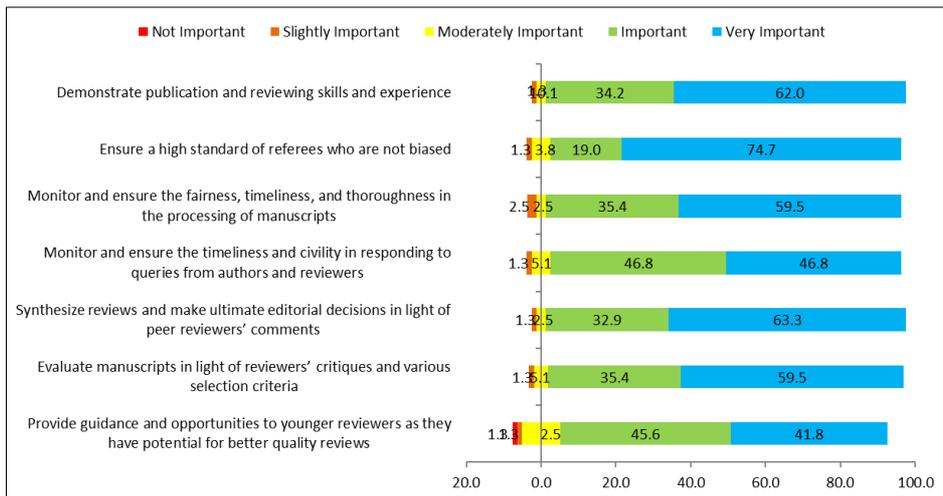
Journal Promotion

Journal promotion is important for the brand's quality and the publishing house's reputation. The results, as seen in Figure 7, indicate the importance of two items with mean values above 4.2. In upholding the journal:

- Engage in the promotion of scholarly research and best practices in conducting and reporting it (M=4.27, SD=0.75; 43.0% very important)
- Entice leading researchers to submit to the journal (M=4.10, SD=0.86; 35.4.% very important)

On the contrary, three items had mean values below 3.9:

- This indicates that editors are not really expected to engage with social media (e.g., FB, Twitter, blog) to reach out beyond the usual specialist audiences (M=3.62, SD=1.02; 22.8% very important);
- Demonstrate proficiency with writing news releases (M=3.70, SD=1.05; 3.8% not important and 8.9% slightly important); and engage in communication with the public (M=3.81, SD=1.01; 24.1% very important).

Figure 7

Editors on Journal Promotion
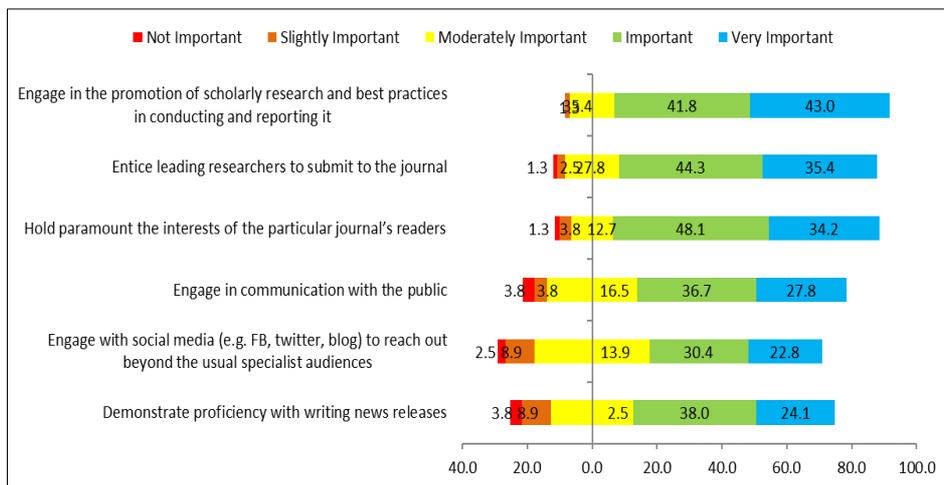
iv.   **Competency Related to Open Science**

Open Access

Open access is also a trend in the publishing world today. The Malaysian editors, as shown in Figure 8, rated two items as the most important features of OA with mean values hovering above 4.0. It was deemed most important that editors should at least:

- Be aware of how OA increases the visibility of articles and their probability of citation (M=4.06, SD=1.05; 41.8% very important).
- Demonstrate knowledge of the article embargo periods during which an article is pay-walled before permitting open access (M=3.94, SD=1.10; 36.7% very important).

In addition to these, two other items were rated with mean values hovering around or below 3.8. These negative responses imply that:

- Demonstrate knowledge that the venue in which OA works are published and archived (e.g., green or gold) (M=3.86, SD=1.06; 27.8% very important).
- Demonstrate knowledge that Green open access involves authors self-archiving their articles by sharing them on their own website / in their institutional repositories (M=3.91, SD=1.02; 27.8% very important).
- Demonstrate knowledge that for publishers, OA makes less profit than pay walls and subscription models (M=3.73, SD=1.12; 27.8% very important).

Open Peer Review

Seasoned editors often ignore the importance of understanding the process of open peer review. As one of the current trends in journal publication, editors must try to keep up with this practice, as the results show three items with mean values above 4.1. As shown in Figure 9, with the OPR system, editors in general must be:

- demonstrate knowledge that reviewers are still given the option to remain anonymous (M=4.24, SD=0.87; 45.6% very important)
- Be aware that reviewers may be reluctant to criticize their peers openly (M=4.08, SD=0.96; 39.2% very important)

Figure 8

Editors on Open Access

Meanwhile, only one item was rated with a mean below 3.6. This item deems it not important for editors to know that:

- Demonstrate knowledge that the OPR process is facilitated by open platforms, which might be a different venue of publication (M=3.77, SD=0.97; 24.1% very important)
- Demonstrate knowledge that OPR enables discussions between authors and reviewers (M=3.85, SD=1.00; 26.6% very important)
- Demonstrate knowledge that OPR enables discussions between reviewers (M=3.84, SD=0.99; 26.6% very important)

Figure 9

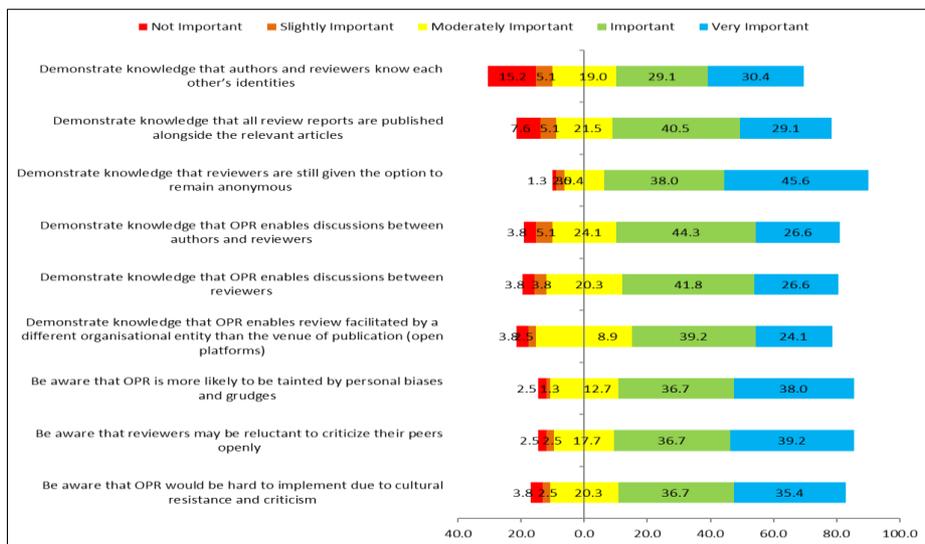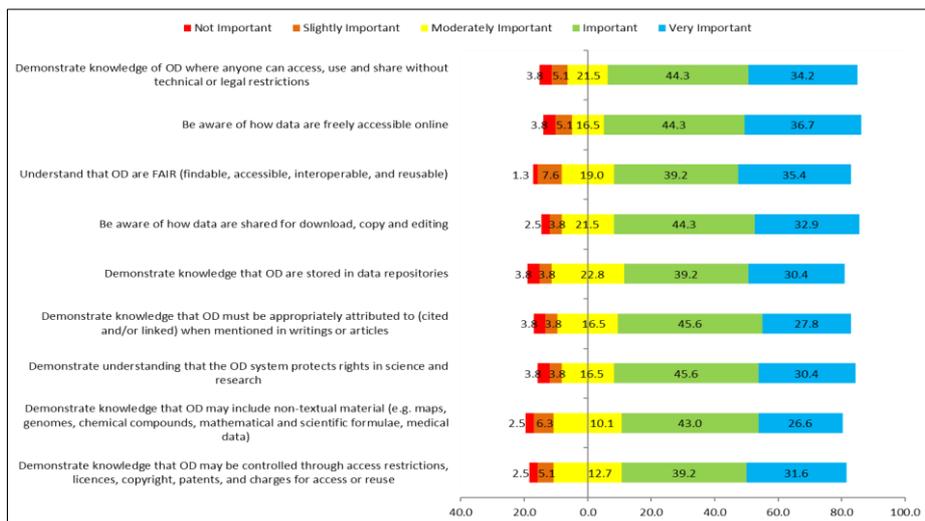*Editors on Open Peer Review*

Figure 10

Editors on Open Data

DISCUSSION

Editors of scientific journals play a crucial role in the scholarly communication process by overseeing the review and publication of research articles. Editors are expected to have core competencies in open science, including open access, open data, and open peer review. Open research means that research data are made freely available for others to access, use, and build upon. This promotes transparency and reproducibility, and facilitates communication, collaboration, and knowledge sharing among researchers, enabling a more inclusive and connected research community.

Scientific journal editors need to possess a range of qualities and characteristics in addition to core competencies to excel in their role. By combining research skills, analytical thinking, interpersonal skills, and a strong work ethic with curiosity and passion for their field, editors can effectively manage the publication process and support the advancement of knowledge in their discipline. The findings indicated that editors perceived integrity and accountability as the most important qualities, rather than managerial and analytical skills. This is corroborated by Galipeau et al. (2017), who reported that skills and experience important to editors include behaving with integrity and professionalism, followed by using judgment in decision-making for research papers, commentary, and correspondence.

When dealing with authors, the respondents indicated that editors took seriously competencies related to ethics and integrity, including acting on concerns about plagiarism, data fabrication, and authorship issues. Two-thirds of the respondents specified that "demonstrate accountability to authors and ensure they are treated with fairness, courtesy, and objectivity" was rated as very important. The peer review process plays a critical role in ensuring the quality and integrity of scientific content to promote the advancement of knowledge in the field. The respondents rated competency in ensuring good-quality reviewers as very important. This can be achieved by selecting appropriate reviewers, providing clear guidelines and instructions, facilitating communication between reviewers and authors, and providing feedback to reviewers. However, guiding younger reviewers and monitoring the review process were identified as lower-priority competencies.

Editors also take competencies related to ethics and integrity seriously. The following items were rated as very important by more than two-thirds of respondents: (i) ethical editors with integrity should be able to identify and address allegations of fraud or plagiarism; (ii) demonstrate expertise in ensuring the ethical integrity of publications; and (iii) demonstrate understanding of privacy, confidentiality, and anonymity issues. In journal editing and publishing, respondents opined that editors' competencies should focus on ensuring that selected articles are suitable, rather than on performing editing duties or using ICT to complete tasks. The findings also indicated

that it is very important for editors to be knowledgeable about the journal's goals, the roles and responsibilities of editorial members, the quality and scope of published articles, and the latest trends in open scholarship and journal metrics. The least important competencies were knowledge of marketing and advertising policies, particularly regarding engagement with social media and writing press releases. Competencies related to journal promotion were reported as important for enticing leading researchers to submit to the journal.

Scientific journal editors need a range of competencies related to open research, namely in open access, open data, and open peer review. The findings indicated that about 40% of editors rated understanding how open access could increase the visibility of articles and their likelihood of garnering more citations as very important. This number is relatively low, given that open access has been practised worldwide in scholarly communication for some time. However, knowledge of open access venues, such as green and gold OA and self-archiving, was rated as less important. About 40% of editors stated the importance of knowledge of open peer review, such as the anonymity of reviewers and the awareness that reviewers may be reluctant to criticise their peers openly. Knowledge of platforms that enable open-access discussion among reviewers in open peer review was considered less important (about 25%). These findings demonstrate that editors' awareness and advocacy of open peer review is low, even though open peer review is becoming mainstream scholarly practice, mainly preferred by the new generation of researchers, where the option for open peer review is becoming an important factor in choosing a publishing venue (Kirkham &Moher, 2018). A study by Ross-Hellauer and Gorogh (2019) published guidelines for implementing open peer review, suggesting that transitioning to open peer review would be a good starting point for further development. Melero, Boté-Vericad, and López-Borrull (2022), however, reported that editors favoured open access but were reluctant to adopt open peer review and preprints.

Nearly 40% of the editors indicated the importance of knowledge of open data, including freely accessible data and the FAIR principles. The least important competencies (nearly 30%) were knowledge of detailed open data processes, such as content and attribution. While respondents agreed on the high importance of editors' core competencies, they expressed some reservations about new competencies in open research in general. This is demonstrated by the relatively higher percentages rating items related to open access, open data, and open peer review as less important. Maggin (2021), on the other hand, reported a high importance placed on open science practices such as data sharing among editors and associate editors. Journal editors play a crucial role in overseeing the publication of scientific papers. In the increasingly digital and open research landscape, they need to be comfortable with digital scholarship and have a solid understanding of the principles and practices of

open research. This can be achieved by mastering digital tools for document review, plagiarism detection, and other editorial processes. Familiarity with open-access platforms and standards is essential for the dissemination of research results. This includes understanding open access licences and advocating for an open access policy. Journal editors should promote open research that encourages transparency, reproducibility, and the advancement of science.

CONCLUSION

The findings are significant as they demonstrate that scientific journal editors possess capabilities beyond their core competencies by incorporating skills aligned with open science initiatives to promote research transparency, reproducibility, and collaboration among researchers. Editors should be familiar with the principles and practices of open access publishing, open peer review, and open data within the framework of open science. The findings could help identify the training needs of scientific editors to perform their duties competently in the era of open science and support the development of appropriate training modules. However, the study is limited to collecting information on the perceived importance of these competencies. Further research could examine editors' actual practices in relation to the outlined competencies, particularly regarding elements of open science, by assessing proficiency with Open Science mandates, such as UNESCO OS, Plan S, Horizon Europe, and the San Francisco Declaration on Research Assessment (DORA). These mandates collectively shape a new competency profile for current scientific editors, requiring skills in data management, licensing, reproducibility, transparency, ethics, and equity-oriented publishing.

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APPENDIX

Survey instrument

Likert scale: 1=Not important, 2=slightly important, 3=moderately important, 4=Important, 5=Very important

Item	Competency-related statement
Qualities and Characteristics of a Researcher	
	Demonstrate experience and broad knowledge of the field(s) covered by the journal and of the people working in those fields.
	Communicate clearly with others.
	Demonstrate managerial skills on an editorial board (e.g., publication plan).
	Demonstrate good analytical skills (e.g., factor analysis, thematic and content analysis).
	Demonstrate effective critical assessment skills (e.g., research design, data interpretation).
	Demonstrate decisiveness (firm editorial decision) when selecting material for its merit, interest to readers, validity of work, and originality.
	Demonstrate knowledge of processes related to the editorial board (e.g., review, copy edit, production).
	Act with integrity and accountability.
Dealing with Peer Reviewers	
	Demonstrate publication and reviewing skills and experience.
	Ensure a high standard of referees who are not biased.
	Monitor and ensure the fairness, timeliness, and thoroughness in the processing of manuscripts.
	Monitor and ensure the timeliness and civility in responding to queries from authors and reviewers.
	Synthesize reviews and make ultimate editorial decisions in light of peer reviewers' comments.
	Evaluate manuscripts in light of reviewers' critiques and various selection criteria.
	Provide guidance and opportunities to younger reviewers as they have the potential for better quality reviews
Journal Editing	
	Demonstrate knowledge of and experience with technical aspects of online editing.
	Demonstrate the ability to assess the quality of papers.
	Ensure papers selected are suitable for the journal.
	Demonstrate aptitude in using ICT to perform his/her editorial duties.
	Demonstrate familiarity with scientific units, numerals, symbols, and nomenclature.
	Demonstrate familiarity with the basic concepts of statistics.
	Demonstrate knowledge of literature reviews.
	Demonstrate familiarity with the principles of scientific investigation.

Demonstrate knowledge of issues related to supplemental materials for manuscripts.

Demonstrate the ability to work with editors of other journals.

Journal Promotion

Engage in the promotion of scholarly research and best practices in conducting and reporting it.

Entice leading researchers to submit to the journal.

Hold paramount the interests of the particular journal's readers.

Engage in communication with the public.

Engage with social media (e.g., FB, Twitter, blog) to reach out beyond the usual specialist audiences.

Demonstrate proficiency with writing news releases.

Publication Ethics and Research Integrity

Demonstrate knowledge of and adherence to the principles of editorial independence.

Demonstrate expertise in ensuring the ethical integrity of publications.

Identify and address allegations of fraud or plagiarism.

Demonstrate understanding of privacy, confidentiality, and anonymity issues.

Identify and address issues related to conflicts of interest.

Separate decision-making from commercial considerations.

Demonstrate knowledge of the ethical approval process for research involving humans and animals.

Demonstrate knowledge regarding problems with multiple publications (e.g., salami, duplicate, redundant).

Formulate and implement editorial policies to ensure the validity, objectivity, fairness, and transparency of the publishing process.

Identify and address issues related to authorship (e.g., ghost, guest, and gift authorships).

Dealing with Authors

Ensure authors are aware of ethical authorship practices.

Demonstrate accountability to authors and ensure they are treated with fairness, courtesy, and objectivity.

Provide constructive criticism to authors.

Mediate sound communication between the comments of reviewers and responses of authors (correspondence).

Engage in critical evaluation of authors' manuscripts and the peer-review process itself.

Act on concerns about plagiarism, data fabrication, or an authorship issue.

Follow-up with authors and then institutions on concerns about plagiarism, data fabrication, or an authorship issue.

Request full disclosure of potential conflicts of interest by the authors.

Journal Publishing

Demonstrate knowledge of marketing and advertising policies.

Demonstrate knowledge of the specifications of the journal.

Demonstrate knowledge of the goals of the journal.

Demonstrate knowledge of the roles and responsibilities of the editorial staff.

Stay updated with the latest trends in online journal publishing, such as open peer review (OPR), open access (OA), and open data (OD).

Act as a gatekeeper and guarantor of publications, checking both the quality and scope of research published in the journal.

Demonstrate knowledge of journal metrics (e.g., Journal Impact Factor (JIF), SCImago Journal & Country Rank (SJR), CiteScore).

Demonstrate knowledge of abstracting and citation indexing services (e.g., MyCite, ISI (Web of Science, Clarivate), Scopus (Elsevier), ERIC).

Demonstrate knowledge of standard scholarly metrics (e.g., times cited, h-index, number of papers, and ResearchGate scores)

Open Peer Review (OPR)

Demonstrate knowledge that authors and reviewers know each other's identities.

Demonstrate knowledge that all review reports are published alongside the relevant articles.

Demonstrate knowledge that reviewers are still given the option to remain anonymous.

Demonstrate knowledge that OPR enables discussions between authors and reviewers.

Demonstrate knowledge that OPR enables discussions between reviewers.

Demonstrate knowledge that OPR enables review facilitated by a different organisational entity than the venue of publication (open platforms).

Be aware that OPR is more likely to be tainted by personal biases and grudges.

Be aware that reviewers may be reluctant to criticize their peers openly

Be aware that OPR would be hard to implement due to cultural resistance and criticism.

Open Access (OA)

Demonstrate knowledge that publishers put articles on its online platforms and free of cost (gratis)

Demonstrate knowledge that the venue in which OA works are published and archived (e.g. green, gold, bronze, hybrid, diamond/platinum, or black open access).

Demonstrate knowledge that Green open access involves authors self-archiving their articles by sharing them on their own website / in their institution's repository / in other public archives.

Demonstrate knowledge that Gold open-access articles are published in an OA journal, in which the journal will handle hosting and distributing the articles gratis or with a charge.

Demonstrate knowledge that Gold open-access journals can come with publication fees paid by the author or the author's institution, known as the Article Publishing Charges (APCs).

Demonstrate knowledge that publishers provide waivers for authors in cases of genuine need and country eligibility.

Demonstrate knowledge of the article embargo periods (vary from 6 to 24 months) during which an article is pay-walled before permitting self-archiving or releasing a free-to-read version.

Demonstrate knowledge that manuscripts are made immediately available (e.g., via preprint servers like arXiv) in advance of formal peer review procedures.

Demonstrate knowledge that for publishers, OA makes less profit than pay walls and subscription models.

Be aware of how OA increases the visibility of articles and their probability of citation.

Open Data (OD)

Demonstrate knowledge of OD where anyone can access, use, and share without technical or legal restrictions.

Be aware of how data are freely accessible online.

Understand that OD are FAIR (findable, accessible, interoperable, and reusable).

Be aware of how data are shared for download, copy and editing.

Demonstrate knowledge that OD are stored in data repositories.

Demonstrate knowledge that OD must be appropriately attributed to (cited and/or linked) when mentioned in writings or articles.

Demonstrate understanding that the OD system protects rights in science and research.

Demonstrate knowledge that OD may include non-textual material (e.g., maps, genomes, chemical compounds, mathematical and scientific formulae, medical data).

Demonstrate knowledge that OD may be controlled through access restrictions, licences, copyright, patents, and charges for access or reuse.