Revamped Open-Peer Review Process (ROPP)

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ABSTRACT

It has been suggested that traditional anonymous peer review lacks accountability, can lead to abuse by reviewers, and may be biased and inconsistent. In response to these criticisms, the new trend known as open-peer review process (OPR) is proposed. OPR argues that the Internet can provide a better way to judge article quality using the opinion of every reader rather than that of only a couple of reviewers. This new trend is making the full peer-review records public and opens the peer-review process to anyone who is interested to read an article and furnish some comments. However, currently the OPR used to determine which articles are published in scientific journals is far from perfect.

The new trend is moving toward OPR, and many journals have intention to allow such trend. This is confirmed by a preliminary study conducted involving 13 refereed journals in Malaysia. The result shows that 84.6% of the journal administrators are interested to move from double-blind review to open peer-review process. Although this is the case, no guidelines or models, either conceptually or otherwise, exist to assist the journal administration to migrate. Also, adopting this trend in ICT era implies a further necessity in proposing ICT related guidelines and models that will assist journal administration having intention to moving into this new trend.

*With the intention of providing such required guidelines and models, especially in Malaysian environment, the concept of **Revamped Open-Peer Review Process (ROPP)** is proposed. This study suggests a ROPP conceptual model for journal reviewing process. ROPP will support several novel activities in reviewing process such as ensuring the quality of reviewers through agent-based design that determines relevant criteria.*

Keywords :
Open-review, Peer-review, Conceptual model, Revamped Open-Peer Review Process

1.0 INTRODUCTION

Peer review (known as refereeing in some academic fields) is a process of subjecting an author's scholarly work or ideas to the scrutiny of others who are experts in the field. It is used primarily by **editors** to select and to screen submitted manuscripts, and by funding agencies, to decide the awarding of grants. Whereas the peer review process aims to make authors meet the standards of their discipline and of science in general. Publications and awards that have not undergone peer review are likely to be regarded with suspicion by scholars and professionals in many fields. Normally the experts are known as **reviewers**. The groups involved in peer-review process activities are described in Figure 1.
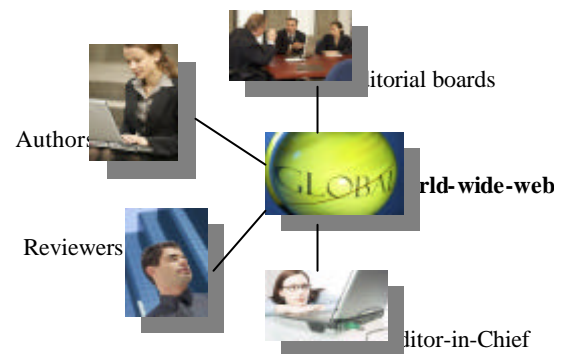

Figure 1: Groups in Peer-review Process

Normally peer-review will take much time starting from article submission until it is ready to be published by publisher. During the reviewing process, editors will take responsibilities to reject or accept papers that present good or bad quality. Some journals generally have a two-tier reviewing system as follow:

- In the first stage, members of the editorial board verify that the paper's findings.
- Papers that do pass this 'pre-reviewing' are sent out for in-depth review to outside referees.
- Even after all reviewers recommend publication and all reviewer criticisms/suggestions for changes have been met, papers may still be returned to the authors for updating.

The international journals such as the *Journal of the American Chemical Society* (*JACS*), generally submit all papers for peer-reviewing to multiple reviewers. The reviewers will inform the editors on quality, correctness, and specific contents can be suit for publication in certain specialized journal. In this case, the journal editor may accept the forwarded articles without further reviewing.

Some general area journals, such as *Physical Review Letters,* have strict length limitations. In contrast, online journals can allow more space and no limitations. More specialized scientific journals such as *Astrophysical Journal* and the *Physical Review* use peer review primarily to filter out obvious mistakes. Normally, some journals have practices the double-blind peer review process to avoid any bias problem or conflict of interest during reviewing processes.

1.1 The Significant of Open Peer Review to Knowledge Management

There are different styles of OPR. Unlike in a normal journal OPR system, all articles submitted are published immediately and the review process takes place afterwards. Reviews are displayed at the end of each article and give the reader criticism or guidance about the work. Readers also use reviews to guide what they read and the popularity of works is easy to identify. Another approach is a dynamical peer review site. It provided an opportunity for users to evaluate the reviews as well as the articles. That way, with a sufficient number of users and reviewers, there should be a convergence towards a higher quality review process. Other approach in OPR system is the authors have the opportunity to withdraw their article, to revise it in response to the reviews, or to publish it without revision. Readers may see any negative comments along with the names of the reviewers, if the authors proceed with the publication of the articles despite the critical comments. In OPR system, expert commentaries are allowed and authors are encouraged to respond. It is also allow ongoing debate and criticism following publication.

2.0 PROBLEM BACKGROUND

Current practice in double-blind peer-review process, the selections to be a reviewer were assigned by editors. Journals or individual editors often invite an article's authors to name people whom they consider qualified to referee their work. In this case, another conflict of interests that might arise, as a result the editors may choose the wrong reviewers that might not really match with the articles contents.

The anonymity in the double-blind peer review may cause the identity of the reviewers are hidden. In some prestigious journal, the credentials and reputation are very important element that most reviewers need

highlighted their information to public and considered an honor.

Previously, the current practice in most university conference, conducting the peer-review process for conference proceeding have offered to be reviewers from the editorial colleagues. So that, the capability and the level of confidences to evaluate a technical article by reviewers is not there. These situations also happen to other book publishers when assigning the reviewers with no confidence enough and no prior experience to finish the task. These issues of evaluation must be urgent investigation with proposing design model that ensure the process of reviewing is open to publicly.

2.1 Research Questions

New trend in reviewing article is to open peer-review process to any interested readers. However, preliminary study has been done shows that 84.6% of 12 Malaysia international journals are interested to move from double-blind review to open peer-review process. Here many journals have intention to allow such trend but no guidelines models, either conceptually or otherwise, exist.

Also, adopting this trend in ICT era implies a further necessity in proposing ICT related guidelines and models that will assist journal administration having intention to moving into this new trend. A number of ICT related models should be put forward, which may include the following model and many more:

- Implementation conceptual model
- Architectural model
- Web application design model
- Process flow model
- Information security model

In putting forward such models, a number of questions should be addressed:

1. What are the components of such proposed models?
2. How do the components link to each other?
3. Can the models be implemented?
4. Would the models be highly accepted?

2.2 Research Objectives

The main objective to be achieved in this study is to propose a model for reviewing process that applies the concept of open-peer review (OPR).

3.0 PRELIMINARY STUDY

The preliminary studies were conducted purposely to look into the current practice for journal publishing in Malaysia. The method use for this study is through the interview session with the editor-in-chief or the member of editorial board. There are 13 refereed journals are chosen to be analyzing.

3.1 Finding

Table 1 depicted the numbers of journal produced in difference medium of publishing either electronic or printed forms and also shows the current reviewing approach in year 2007.

Only three journals are publishing in electronic forms and seven journals maintain the traditional printed forms. However, only two journals are disseminating in both medium. Referring to reviewing approach, only one journal assigned one reviewer to review twice, but the others assigned two reviewers per article.

The aim of this study is to investigate the numbers of respondents with the prior knowledge of the concept of open-peer review as shows in Table 2. Around 84.6% of respondents have never heard the concept of open-peer review and have intention to move from double-blind review to open-peer review. The decision were made due to the current practice in journal managing are conventional approach and only one journal is fully electronic in their operation.
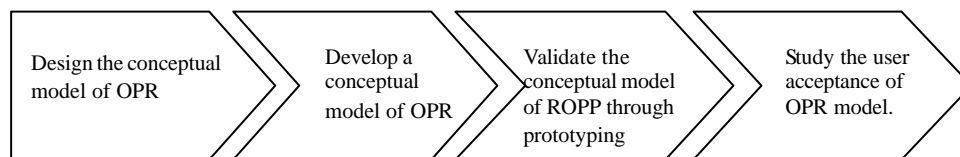
Table 2: Comparison study on intention to move to open-review process

No.	Journal	Intention to move to open-review	
		Yes	No
1.	Malaysian Management Journal	v	
2.	International Journal Management Studies	v	
3.	International Journal of Bank and Finance	v	
4.	Journal of International Studies	v	
5.	Malaysia Journal of Pharmaceutical Sciences	v	
6.	Asian Academy of Management Journal	v	
7.	Journal of Construction in the Developing Countries	v	
8.	International Journal of Asia-Pacific Studies		v
9.	Progress Food Biopolymer Research	v	
10.	Journal of Bioscience	v	
11.	JAIMS	v	
12.	Journal of ICT	v	
13.	Malaysia Journal of Learning and Instruction		v

Only 7.7% of journal facing the problem to find out the expertise those match with selected articles.

4.0 METHODOLOGY

In order to ensure the success of the research, four phases of methodology will be implementing.

Figure 2: Methods of running the research

The research also highlighted some problems in managing the reviewing process such as increasing the cost, the delays of paper submission among authors, reviewers, and editorial board, and difficult to find the potential reviewers for certain article.

The research shows that all journals have delay problems due to the submission time are not followed. Another delay problem also arises when the process of searching the potential reviewers is taken many times after the previous reviewers were failed to precede the reviewing process.

In order to develop the ROPP conceptual model, four phases of methodology will be implemented. It begins with identifying and revamping the conceptual model of OPR, developing a conceptual model of ROPP, validating the conceptual model of ROPP through prototyping development, and ended with investigating functionality and efficiency of the prototype. This model outlines four processes that should be taken to conduct this research. Figure 2 exhibit the overall research stages.

Table 1: Comparison study on product delivery and reviewing approach

No	Journal	Delivery Mode			Review Approach		
		Electronic	Print	Electronic and Print	Double-blind review	Open-peer review	Number of Reviewers
1.	Malaysian Management Journal			v	v		2
2.	International Journal Management Studies			v	v		1
3.	International Journal of Bank and Finance		v		v		2
4.	Journal of International Studies		v		v		2
5.	Malaysia Journal of Pharmaceutical Sciences		v		v		2
6.	Asian Academy of Management Journal		v		v		2
7.	Journal of Construction in the Developing Countries		v		v		2
8.	International Journal of Asia-Pacific Studies	v			v		1 to 3
9.	Progress Food Biopolymer Research	v			v		2
10.	Journal of Bioscience		v		v		2
11.	JAIMS	v			v		2
12.	Journal of ICT		v		v		2
13.	Malaysia Journal of Learning and Instruction		v		v		2

5.0 CONTRIBUTION

The main contribution of the study is the development of new peer-review process model called open-peer review, which is revamp the traditional double-blind peer review process. This traditional approach is currently used to determine which articles are published in scientific journals is perfected but not ensure the quality of articles (Roumen 2007). The other contribution of this study listed below will be described in conclusion section:

- Reviewing process that applies the concept of OPR process
- The prototype of reviewing process that applies the concept of OPR process.

6.0 DISCUSSIONS

This study has review and revamps the double-blind peer-review process to open-peer review process that will help the journal administration to manage the publishing process for more quality and efficiency with the following features:

- OPR conceptual model is a dynamic model with the special features called the intelligent agent. Using the agent, the system will determine the relevant criteria selection for particular articles. Normal evaluation criteria for article evaluating are standard and static.
- OPR conceptual model listed the special priority of the criteria for evaluating the articles are concerned.
- OPR conceptual model can solved some problems arise between authors, reviewers, and editorial board. For example, the process of selection the correct expert to review an article.

The development of OPR prototype can help the community to manage the electronic journal for both parties (reviewers, authors, editorial boards, and readers) as following discussed:

- **The scholar's forum** exists between authors and reviewers will take placed.
  This will benefits both parties and caters many problems such as conflict of interest and misunderstanding on reviewer's comments.
- **May reduce the editor's workload**. Many editors' complaints that they have to spend more time to find out the expert reviewers those match with certain topic of the article. The probability of editors to get the reviewer with expertise in particular area is also high, because the process of selection has been done in manually.
- **Reduced the time of reviewing process**. Those academicians that submit their reviewer application form, followed the rules and regulations, and approved by editorial board is automatically to be a reviewer. The process of selection to be a reviewer has taken less time when reviewers itself apply to be a reviewer. Means that the person is ready and have enough time to do the editing process within allocation time.

- **Improve the Article Quality**. Author will do the modification based on the reviewer's comments. If the highest numbers of reviewer evaluate the article then it shows the article is good in quality. Bloom (2006) mentioned that the publication process will take more time and involved a series of version due to regularly changes to the articles. In order to access scientific accuracy and convene the quality of an article, Bloom highlight the important of many reviewers need to judge whether a manuscript reaches the journal's scope and not to judge by interest level.

7.0 CONCLUSIONS

With the intention of providing such required guidelines and models, especially in Malaysian environment, the concept of ROPP is proposed. This study suggests a ROPP conceptual model for journal reviewing process. ROPP will support several novel activities in reviewing process such as ensuring the quality of reviewers through agent-based design that determines relevant criteria.

OPR system may shorten the process of publication; allow the reader criticism or guidance about the work, the opportunity for users to evaluate the reviews articles. With a sufficient number of users and reviewers may increase the higher quality review process. Other approach in OPR system is the authors have the opportunity to withdraw their article, to revise it in response to the reviews, or to publish it without revision. A preliminary study conducted involving 13 refereed journals in Malaysia. The result shows that 84.6% of the journal administrators are interested to move from double-blind review to open peer-review process.

The main contribution of the study is the development of new peer-review process model called OPR, which is revamp the traditional double-blind peer review process. ROPP will support several novel activities in reviewing process such as ensuring the quality of reviewers through agent-based design that determines relevant criteria.

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