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Letters to the Editor

LETTER TO THE EDITOR

Efficiency in managing peer-review of scientific manuscripts – Editors' perspective

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Abstract: The purpose of this paper is to introduce a model for measuring the efficiency in managing peer-review of scientific manuscripts by editors. The approach employed is based on the assumption that the editorial aim is to manage publication with high efficiency, employing the least amount of editorial resources. Efficiency is defined in this research as a measure based on 7 variables. An on-line survey was constructed and editors of journals originating from Serbia regularly publishing articles in the field of chemistry were invited to participate. An evaluation of the model is given based on responses from 24 journals and 50 editors. With this investigation we aimed to contribute to our understanding of the peer-review process and, possibly, offer a tool to improve the "efficiency" in journal editing. The proposed protocol may be adapted by other journals in order to assess the managing potential of editors.

Keywords: survey; editorial experience; Parsimonious model.

INTRODUCTION

The rate of scientific information generation has increased tremendously in the last few years. The authors generally perceive the speed of peer-review as slow.[1] The number of journals has also increased[2] and journal editors are facing an increasing number of submissions. The rate of increase in the number of researchers, studies and papers is far greater than the rate of increase in the

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number of journals, published pages or individuals involved in editorial activity. Due to this increased pace and the use of more informal approaches in workplace communication by modern technologies, as Smedley[3] explained, success is often determined by the individual management capacity. The main objective of editors is to publish good quality manuscripts that are free of errors. If this goal is achieved, the review process is effective. Editors are also expected to manage editorial work with high efficiency, *i.e.*, employing the least amount of editorial resources. Effectiveness and efficiency do not necessarily correlate. Editors are required to be competent in dealing with authors, reviewers, associate editors, journal publishers and promotion, and also ethics.[4] Thus, in order to manage peer-review and publication process efficiently, journal editors define policies and develop strategies which include clearly stated aims and scope of a journal, guidelines for authors, ethical rules and guidelines for peer-reviewers, but they also apply implicit (personal) knowledge to develop a methodology to search for reviewers, evaluate reviewers' reports, and define criteria for making the final decision.[5,6] How to improve efficiency in scientific publishing has become a research field for journal editors.[7–9] Management of empirical, tacit, subjective knowledge seems to have the strongest impact on editorial strategy, even though one may propose objective technical helps.[10] Thus, the management performance of editors can be questioned from an "efficiency-defined" point of view. We propose to tackle this issue through a parsimonious model based on a finite size of editors in a specific domain, interrogated with the focus we just emphasize here above. With this investigation we aimed to contribute to our understanding of the peer-review process and, possibly, offer a tool for the evaluation and improvement of the efficiency in journal editing.

Thus, we propose a model to assess and measure the efficiency in managing peer-review of scientific manuscripts. Although the term "efficiency" is either an economic or a thermodynamic concept and can be more firmly defined than it is done in this article, here it is defined through measures based on several appropriate variables. Efficiency in this research is understood as a measure to indicate the employment of editorial resources in order to manage submitted articles. Seven criteria are proposed (evaluated through multiple-choice questions) to define efficiency, as discussed below. The following aspects of the process were investigated: the number of invited reviewers, portion of invitations without response, portion of manuscripts for which a second round of reviewer invitation was needed, portion of inadequate reports (from the ethical point), portion of low quality reports (from the point of professional competence), timeliness of report submission and the way in which editors search for reviewers. Possible correlations between these variables were searched for, through a radar chart-like display from statistical means.

Peer-review management practices of editors of journals originating from Serbia regularly publishing articles in the field of chemistry and associated disciplines were analyzed through the proposed model. Twenty-seven such journals were collected from the bibliographic databases (Web of Science Core Collection – WoS and the Serbian Citation Index – SCI). Some of them are managed by one person, whereas others have one editor-in-chief and sub-editors (the initial information was found at journal websites). Since editors are positioned between authors who submit and external reviewers who evaluate manuscripts (although editors can also be reviewers), it seemed relevant to study and discuss the efficiency in handling scientific manuscripts in relation to the self-appreciated management skills of editors.

EXPERIMENTAL

A model

A model used to investigate efficiency in peer-review was based on 7 criteria: the number of invited reviewers, portion of invitations without response, portion of manuscripts for which a second round of reviewer invitation was needed, portion of inadequate reports, portion of low quality reports, timeliness of report submission and the way in which editors search for reviewers. The details related to the model are given in Supplementary material to this letter.

Data analysis

Collected data were analyzed for individual editors (journals), together for all participants or subdivided into groups: editors in WoS and SCI journals. One very specific journal *(Journal of the Serbian Chemical Society*, *JSCS*) was also selected for a "horizontal" comparison of editorial practices and outcomes between sub-editors, as 14 responses were received from its editors. Statistical analysis was performed by using SPSS software to check normality of the data distribution. Correlations between different components of peer-review efficiency were searched for (a correlation was assumed to be strong when the Pearson's correlation coefficient, r was ≥ 0.75). Statistically significant differences (at $P < 0.05$) between groups of editors in: a) WoS journals, b) SCI journals and c) sub-editors in the *JSCS* were assessed by using the Mann–Whitney U test. In order to test the coherence of the two measures, E_1 and E_2, between groups, the entire set of data (for all editors or journals) was additionally analyzed along a rank-size law methodology and the Kendall τ rank correlation measure.

RESULTS AND DISCUSSION

Response rate

Out of 70 invited editors, 50 responded; 22 editors-in-chief and 28 sub-editors (30 males and 20 females). A response rate of 71.4 % is considered satisfactory for the social non-mandatory surveys.[11,12] Out of 27 surveyed journals, information was collected for 24, *i.e.*, 88.9 %.

Calculation of peer-review efficiency in WoS journals

Weight factors related to particular responses from WoS journal editors are shown in Table I (a letter was assigned to each journal to be used instead of the journal name, in order to avoid identification of the journal or its editor, as formal permission to relate the specific journal with the results was not obtained, except for the *JSCS*). In 6 WoS journals, there were only editors-in-chief; all of them responded. In 5 WoS journals, there were sub-editors beside the editor-in-chief; not all of them responded. In order to compare data between WoS journals, *WF*s for journals having several editors were averaged at a journal level by calculating mean values from the answers provided by individual (sub)editors.

TABLE I. Efficiency of peer-review process estimated by (sub)editors in WoS journals; a – number of reviewers invited in the first round; b – portion of manuscripts for which a second round of reviewer invitation is needed; c – portion of invitations to reviewers without response; d – portion of inadequate reports; e – quality (competence) of reports; f – timeliness of report submission; *RSA* – relative surface area of hexagon; a letter was assigned to each journal to avoid the use of journal name

Journal	Weight factor								E_1	*RSA*	E_2
	a	b	c	d	e	f	Sum	Average	%	AU	%
A	4	3.4	3.8	3	3.4	2.4	20.0	3.33	83.25	28.5	68.51
B	3.1	3.1	3.2	1.9	3.1	2.6	17.0	2.83	70.75	22.5	54.09
C	2	1.5	2.5	2.5	2.5	3	14.0	2.33	58.25	14.2	34.13
D	4	4	4	3	2	2	19.0	3.17	79.25	26.1	62.74
E	3	3	3	4	3	1	17.0	2.83	70.75	20.8	50.00
F	4	4	3	4	4	3	22.0	3.67	91.75	34.6	83.17
G	4	3	4	4	3	3	21.0	3.50	87.50	31.6	75.96
H	2	1	1	4	3	4	15.0	2.50	62.50	16.9	40.62
I	4	4	4	2	3	2	19.0	3.17	79.25	26.0	62.50
J	4	4	4	4	4	3	23.0	3.83	95.75	38.1	91.59
K	4	4	4	2	3	3	20.0	3.33	83.25	29.0	69.71
Mean	3.46	3.18	3.32	3.13	3.09	2.64	18.82	3.135	78.386	26.21	63.00
SD	0.815	1.051	0.939	0.910	0.577	0.779	2.822	0.4710	11.775	7.265	17.466
CV	0.236	0.331	0.283	0.291	0.187	0.295			0.150		0.277
Max	4	4	4	4	4	4	24.0	4.00	100.00	41.57	100.00

As explained in the Supplementary material, the overall efficiency of the peer-review activity in one journal was estimated in two ways. The first one resulted from the calculation of the arithmetic mean value (average *WF*) for 6 *WF*s corresponding to responses characteristic for a particular editor or a journal. The second efficiency measure relied on the area of the hexagon drawn using 6 individual *WF*s as axis for each journal (Table I and Fig. 1). Both efficiency measures were further expressed as percentages of the maximal efficiency: E_1 for the mean value and E_2 for the hexagon area.

By analyzing Table I and especially Fig. 1, it becomes obvious that the efficiency of peer-review, from the moment of reviewer invitation to the moment of report collection, is differentially affected by the examined components of the process in each journal. This finding suggests the existence of a major personal influence of an editor on the final outcome. Although efficiencies E_1 and E_2 are highly correlated, as expected, the method used to define E_2 is more illustrative

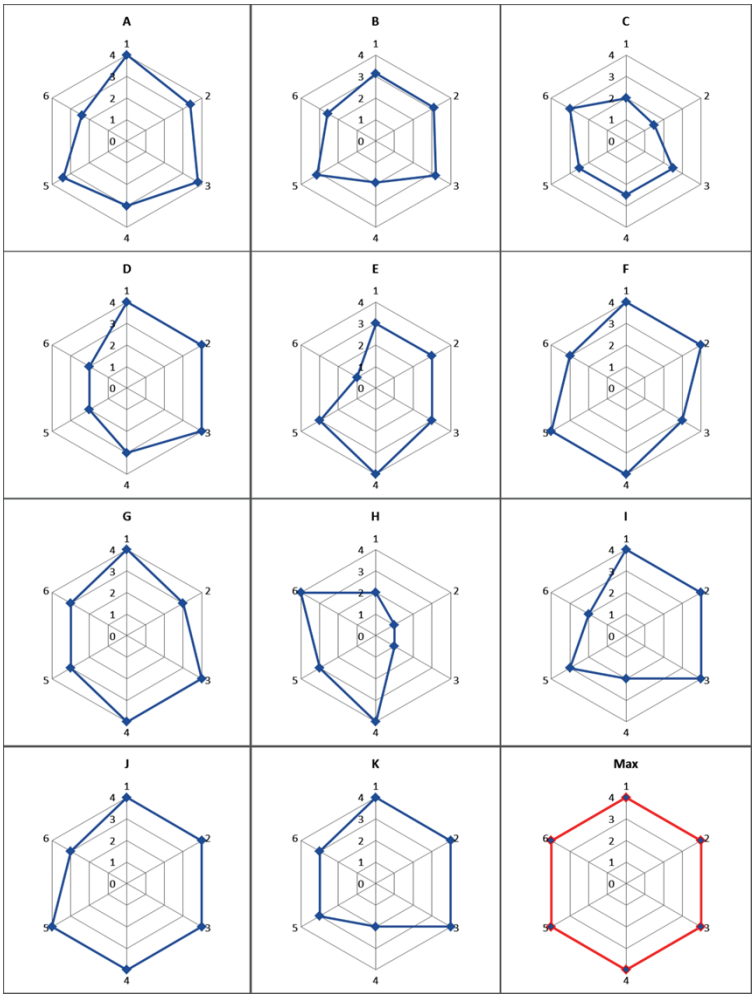

Fig. 1. Efficiency (E_2) of the peer-review process in WoS journals, estimated *via* hexagon construction, using a 6 weight factor scheme for each journal (A–K).

for the comparison of peer-review efficiencies between editors or journals. A diagrammatic presentation of data by radar charts offers a better overview of the strengths and weaknesses of a process in a particular journal, or managed by a

particular editor, than numbers read from a table. For example, it can be seen from Table I that E_1 is the same in journals A and K, yet *WF* values which define E_2 differ significantly (see Table I and Fig. 1). Editors in journal A are the least efficient in obtaining review reports on time, while the efficiency in journal K is mostly affected by the judgment of an editor that there are too many inadequate reports. Thus, by using a model proposed in this article, editors/journals can obtain an insight in specific weaknesses which need better management. In general, editors are the least satisfied with the timeliness of review reports and this variable decreases the overall efficiency in the majority of journals.

Data analysis

A statistical analysis was performed to find correlations between the investigated parameters, and between the E_1 and/or E_2 values within the WoS group of editors/journals. Only a few strong correlations were found (with a Pearson's correlation coefficient, $r \geq 0.75$). Positive correlations were found between: a) the number of reviewers invited in the first round and the portion of manuscripts for which a second round of reviewer invitation was needed ($r = 0.93$), b) the number of reviewers invited in the first round and the portion of invitations without response ($r = 0.88$), c) the number of reviewers invited in the first round and the average *WF* ($r = 0.84$) and d) E_1 and E_2 ($r = 0.98$).

In the second part of the data analysis, the *E* values were correlated with the years spent as being an editor and the number of approaches applied to search for reviewers (Fig. 2a).

The results for journals having more than one (sub)editor were, again, averaged to allow some global comparison - although we are aware that the mean values are a compromise, not exact data. The following was found: a) no correlation is seen between the efficiency and the duration of editorial experience (no editor was less than 7 years on duty) and b) employing more ways to search for reviewers contributes to the efficiency ($r = 0.75$, Fig. 2a). No correlation emerges between a particular way(s) used to search for reviewers and the peer-review efficiency in WoS journals.

Comparison of peer-review efficiency between WoS, SCI journals and one journal managed by several sub-editors

Peer-review efficiency was investigated in the same manner as described above in another two sets of samples: editors in SCI journals and sub-editors in the *JSCS* (Table II, Fig. 2b and c and Fig. S-1 of the Supplementary material; a letter was assigned to each journal, to be used instead of the journal name, in order to avoid identification of the journal or its editor, as formal permission to relate the specific journal with the results was not obtained, except for the *JSCS*). Similar relations profiled from the data on the number of reviewers invited in the first

round and the portion of invitations without response for SCI journals (r = = 0.86) as for WoS journals. The correlation between efficiency and the number of ways used to find reviewers in SCI journals, however, was much weaker than in WoS journals (r = 0.48).

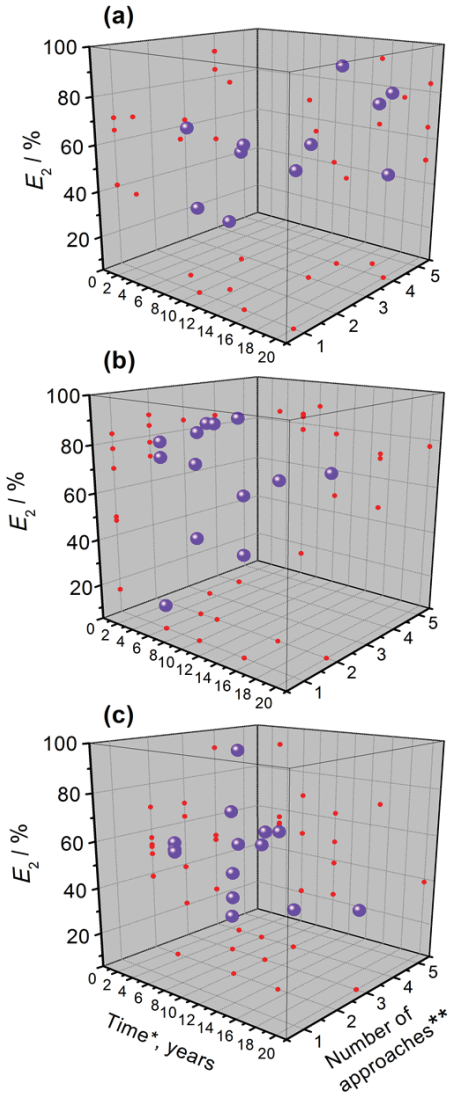

Fig. 2. Relation between peer-review efficiency (E_2), the number of years having been in editorial activity (*) and the number of approaches applied to search for reviewers (**) in: a) WoS journals, b) SCI journals and c) within one WoS journal, *i.e.*, *JSCS*. Big purple dot represents a combined result for one (sub)editor taking into consideration efficiency (E_2) estimated by that (sub)editor (vertical axis), number of years he/she is being in editorial activity (left horizontal axis) and number of approaches he/she applies to search for reviewers (right horizontal axis). Small (red) dots represent 3-dimensional projections of big (purple) dots.

When responses from 14 sub-editors in *JSCS* were analysed, only one strong correlation emerged: between the number of reviewers invited in the first round and the portion of invitations without response (r = 0.76). In contrast to the first

two groups of editors, in this last case, a weak negative correlation was detected between the efficiency and the number of ways used to find reviewers (r = –0.42). The number of years having been in editorial activity or the particular reviewer invitation pattern was not directly related to the efficiency in either group.

The Mann–Whitney U test was used to assess possible difference between the results (E_1 and E_2) obtained for three groups of data. No statistically significant difference in the efficiency was seen between editors in WoS and SCI journals, or between all editors in WoS journals and sub-editors in the *JSCS*. There was, however, a significant difference in the efficiency between SCI journals and sub-editors in the *JSCS*. Editors in national journals, in general, scored higher than sub-editors in the *JSCS*.

TABLE II. Efficiency (E_1) and (E_2) of the peer-review process estimated by editors in SCI journals and by sub-editors in one WoS journal (*JSCS*); *RSA* – relative surface area of hexagon expressed in arbitrary units (AU)

SCI journals						Journal of the Serbian Chemical Society					
Journal	Sum	Average *WF*	E_1 %	*RSA* AU	E_2 %	Sub-editor	Sum	Average *WF*	E_1 %	*RSA* AU	E_2 %
A’	9.5	1.58	39.58	6.2	15.10	A’’	17.0	2.83	70.75	20.7	49.76
B’	21.0	3.50	87.50	32.0	77.08	B’’	12.0	2.00	50.00	8.7	20.91
C’	22.0	3.67	91.67	35.0	84.38	C’’	23.0	3.83	95.75	38.1	91.59
D’	23.0	3.83	95.83	38.1	91.67	D’’	18.0	3.00	75.00	22.1	53.12
E’	17.0	2.83	70.83	19.9	47.92	E’’	17.0	2.83	70.75	21.6	51.92
F’	22.0	3.67	91.67	34.6	83.33	F’’	20.0	3.33	83.25	29.0	69.71
G’	21.0	3.50	87.50	32.0	77.08	G’’	15.0	2.50	62.50	16.0	38.46
H’	20.0	3.33	83.33	28.5	68.75	H’’	15.0	2.50	62.50	16.0	38.46
I’	17.0	2.83	70.83	19.2	46.30	I’’	19.0	3.17	79.25	26.0	62.50
J’	20.0	3.33	83.33	29.4	70.83	J’’	17.0	2.83	70.75	19.9	47.84
K’	21.0	3.50	87.50	32.0	77.08	K’’	20.0	3.33	83.25	28.6	68.75
L’	22.7	3.78	94.44	36.9	88.89	L’’	17.0	2.83	70.75	20.4	49.04
M’	22.0	3.67	91.67	35.0	84.38	M’’	12.0	2.00	50.00	9.5	22.84
						N’’	18.0	3.00	75.00	23.4	56.25
Mean	19.862	3.309	82.745	29.14	70.215	Mean	17.14	2.856	71.393	21.43	51.511
SD	3.643	0.6085	15.173	9.011	21.666	*SD*	3.009	0.5007	12.519	7.742	18.610
CV			0.1836		0.3086	*CV*			0.1753		0.3613
Max	24.0	4.00	100.00	41.6	100.00	Max	24.0	4.00	100.00	41.57	100.00

The coherence of the efficiency measures

In order to further test the coherence of the two measures, E_1 and E_2, the entire set of data (for all editors or journals) was additionally analyzed along a rank-size law methodology and a Kendall τ rank correlation measure. The results of the former analysis are shown in Fig. 3. Other figures can be displayed. To save space, and to make our point, we only propose these two figures: one for the

efficiency E_1 and the other for E_2, with different types of "best fits", a power or a linear law; other figures can be easily imagined from these.

The figures illustrate much regularity, far from the usual power law expectation, and closer to a straight line best fit: this is due to the fact that the number of data points only spans a decade (of editors or journals). Nevertheless, some fine agreement is observed. This is confirmed, in some sense, by the Kendall τ rank correlation measure which is respectively equal to 0.972, 0.973 and 0.949. Even though these values look close to each other, one can observe that the variation between editors in WoS and SCI journals is quite weak, but the measure about sub-editors somewhat differs.

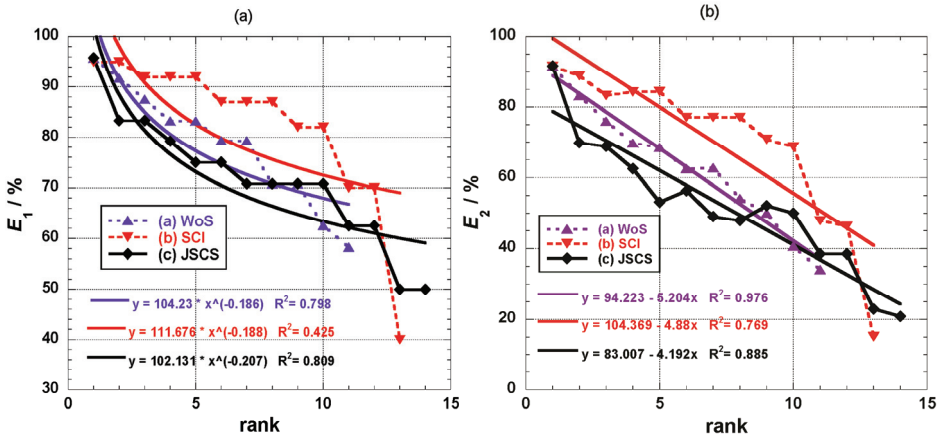

Fig. 3. Rank-size law for the efficiency (E_1) and (E_2), with power law and linear fits, respectively, for editors in: a) WoS journals, b) SCI journals and c) JSCS, distinguished by symbols: triangles on base, triangles on tip and diamonds. The best respective (the least mean square procedure) fits are given.

An overview of the data for individual editors

Finally, in Fig. 4 an overview of the data for several measures characteristic for each individual (sub)editor is given: a) calculated efficiency of peer-review process, b) number of years spent in editorial activity and c) personal approach in searching for reviewers. Editors are grouped by alphabetical order of their names, not by journal affiliation (there was no particular pattern when analyzed by journal affiliation). As it can be seen, most editors (37/50 editors) use databases to search for reviewers; approximately half of them invite colleagues whom they know (23/50) or who already reviewed for their journals (22/50); several editors invite previous authors to become reviewers (15/50); several editors review manuscripts by themselves (11/50); whereas few editors (8/50) employ other strategies for peer-review (such as a panel of reviewers, an invitation of a reviewer recommended by an editor's colleague or a reviewer suggested by an

author). By examining the data in Fig. 4, it becomes obvious that there is no specific invitation pattern (*i.e.*, specific combination of approaches in searching for reviewers) which results in more efficient peer-review process, as assessed from the chosen efficiency measures.

DISCUSSION

Before becoming editors, most researchers spent years being authors and reviewers of scientific papers, gathering personal experience and knowledge on this subject. Once they become editors, they are expected to use their knowledge to manage editorial work and upgrade it in order to achieve high quality and efficiency in publishing papers mainly by others. In other words, the knowledge lifecycle in scientific journals is very similar to the one seen in traditional business process, it can be also related to supply chain management,[13,14] and is relying very often on just one or few people. As Del-Ray-Chamorro and colleagues[15] proposed, knowledge management domain presents an added value to other management techniques. Measurement of knowledge management performance is a serious challenge, and there are only few published articles on this topic.[15–18] According to Yu and colleagues,[18] one of the main reasons for the lack of such studies is the unavailability of effective and quantitative methods for measuring the values generated from the knowledge management system. We hope to contribute to this issue somewhat.

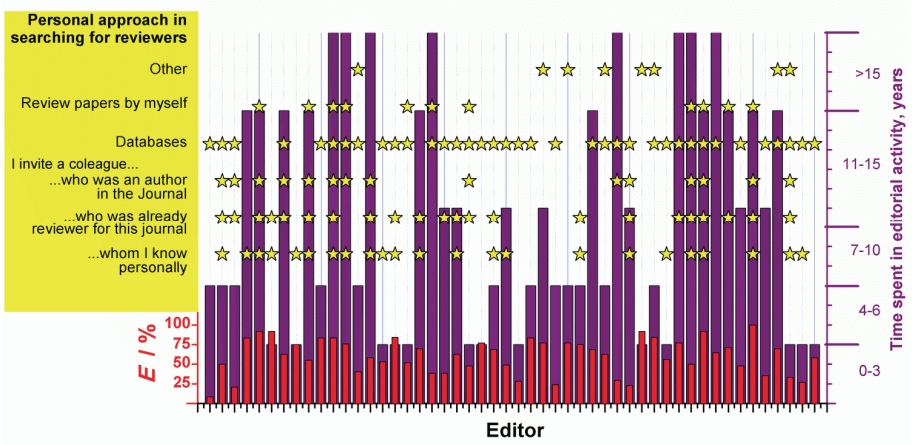

Fig. 4. The relation between peer-review efficiency E_2 (pink column), number of years spent in editorial activity (purple column) and personal approach in searching for reviewers for individual editors (yellow stars positioned at 6 levels correspond to 6 approaches in searching for reviewers listed on the left hand side).

In this paper, a model for measuring efficiency of peer-review in scientific journals is indeed introduced. Application of the proposed model to assess efficiency managed by journal editors confirmed that the present methodology of

editors can be questioned from a "practical efficiency-defined" point of view and an outcome can be evaluated and measured after the transformation of the survey data into simple numerical indicators. Although each single outcome can be specifically analyzed in relation to a single editor and tied to specific advantages and weaknesses which that editor exhibits while managing editorial work, more general implications have been discussed in our report.

From the above results, it can be seen that a similar degree of overall (un)efficiency was recorded in WoS and SCI journals, with no statistically significant difference between them. Data on the number of sub-editors in one journal, however, did not completely resemble data on editors in different journals. This variation, when looking at journals on one hand, and sub-editors in the *JSCS*, on the other hand, is confirmed when reading the mean values in Tables I and II. It may be conjectured that this finding is indicating that although there is a general editorial policy in one journal, sub-editors manage editorial activity mostly in an individual manner and in accordance with personal experience and knowledge. By examining Fig. 2, one can see that WoS journals are managed mostly by experienced editors (being at least 7 years at this position), whereas SCI journals are managed by greater number of editors who have spent fewer years on duty. Although the difference in peer-review efficiency between two groups of editors was not statistically significant, editors in SCI journals scored slightly higher level of efficiency. As it was previously stated that editors are the least satisfied with the timeliness of reports submission, this factor can significantly influence efficiency. In this model, however, duration of the expected peer-review period defined by editors was not taken into consideration. It might be accounted for in further studies.

Statistically significant difference in the efficiency measures E_1 and E_2 was seen between *JSCS* sub-editors and editors in SCI journals, but not between *JSCS* sub-editors and group of editors in WoS journals. Of course, one must bear in mind that responses from sub-editors in the *JSCS* are included in the dataset of responses from all editors in WoS journals, which contributes to some extent to greater agreement of results. By comparing two efficiency measures E_1 and E_2, it seems that E_2-approach, relying on hexagon presentation of data, is more helpful in estimating the peer-review efficiency in a journal. For example, peer-review processes identified as the most efficient overall (with the highest E values, such as in journals F and G, Fig. 1) differed in the efficiency of separate components, as can be clearly seen from the radar charts.

Common to all three editorial groups (WoS, SCI and sub-editors in the *JSCS*) is a positive correlation between the number of reviewers invited in the first round and the portion of invitations to reviewers without response. This finding can be explained by a frequent invitation of "reliable" or "known" reviewers, who tend to accept the invitation and send a report. In 4 out of 11

WoS journals (D, I, J and K, Table III), for example, the editors responded that they ask 1–2 reviewers to review manuscripts, whereas the portion of manuscripts for which a second round of reviewer invitation was needed is less than 25 %. The portion of invitations without response in these journals is also less than 25 %. The editors of these journals seem to have developed some efficient strategy to find reviewers. It was previously recognized that when editors invite well-known people to review, they expect a high-quality report.[5] Additionally, an internationally well-known editor may know many more potential reviewers, and because of reputation and network, finding good and active reviewers may be much easier than in the case of less well-known editors.

On the other hand, in 2 WoS journals (C and H, Table I), the overall efficiency is rather low; the greatest problems editors are facing are related to the necessity to initially invite 4 reviewers on average, who often do not respond, leading to a significant number of second round invitations. In general, indeed, it is hard to find scientists in specific research fields with sufficient expertise in peer-review and who have time to review.[19] Rejection to review is sometimes justified – if potential reviewers feel that they are not competent enough or do not have enough time for professional review, if they personally know or are related to author(s) and if they have some conflicts of interest.[20–22] Editors in the journal *Annals of Emergency Medicine* have developed a specific classifying system to divide their pool of reviewers into 3 categories according to their scoring on the number of reviews performed, their timeliness of report submission and quality.[23] At the end, 55 % of invitations were sent to top-class reviewers, which contributed to the pool of reviewers by 25 %. The most important outcome was a significant decrease in late reports, thus, an obvious improvement in the "efficiency".

Other variables which were not taken into consideration in this study and in the proposed model, but may influence the response rate of reviewers in a particular journal, are the number of submitted manuscripts, the number of manuscripts which are peer-reviewed (not desk-rejected) and the number of reviews performed by an individual reviewer. It may be expected that in journals with fewer submissions it is easier to complete a peer-review process "efficiently". The reputation of a journal and the acknowledgment for reviewing (from a journal or a publisher) can also contribute to the response rate. As already stated in Introduction section, effectiveness and efficiency do not always correlate. For example, some journals will regularly invite at least three referees, which in our model makes them less efficient, but ensures greater effectiveness in selecting high quality articles.

Most answers in our survey relied on objective "parameters", which could be measured and quantified by numbers, whereas the one on the quality (competence) of reports was based on a subjective impression. Editors were asked to

judge on the quality of submitted reports, although for the purpose of this survey, we did not define what is considered to be a "good review report", either through quantitative[24] or qualitative measures,[25,26] thereby allowing each editor to personally appreciate and measure what "quality" means. Thus, we are aware that answers expressing some greater dissatisfaction could have also reflected more stringent criteria on the quality exerted by certain editors. Another point should be also highlighted, although it was not an intended subject of the imagined model – editorial behaviour. Wang *et al.*[27] have found that in the case of biased editors, the effect on the quality of peer-review process is even worse than the effect of biased reviewers. In the same spirit, one might consider the effect of coercive citations in peer-review process efficiency.[28]

CONCLUSIONS

Our objective in this paper was to propose a parsimonious model relying on 7 elements in order to measure peer-review efficiency in scientific journals. The model was tested through a rather large set of editors, though necessarily of the limited size and in a specific field, but it is expected to be of wider application. Even though other variables can contribute to efficiency, the proposed protocol may be adapted by other journals in order to assess managing potential of editors. A similar degree of overall (un)efficiency was recorded in WoS and SCI journals. In general, editors are the least satisfied with the timeliness of review reports. A positive correlation between the number of reviewers invited in the first round and the portion of invitations without response was found, suggesting the frequent invitation of "reliable" or "known" reviewers, who accept the invitation and send a report. No correlation was seen between the efficiency and the duration of editorial experience. Employing more ways to search for reviewers, however, contributes to the efficiency.

SUPPLEMENTARY MATERIAL

Model details and additional data are available electronically at the pages of journal website: http:// //www.shd.org.rs/JSCS/, or from the corresponding author on request.

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ИЗВОД

ЕФИКАСНОСТ У РЕЦЕНЗИРАЊУ НАУЧНИХ РАДОВА – ИЗ УГЛА УРЕДНИКА

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У овом раду је описан модел за мерење ефикасности у рецензирању научних радова, који могу применити уредници. Приступ теми је подразумевао да је циљ уред-

ника да управља процесом публиковања што ефикасније, уз што мању употребу ресурса. Ефикасност је дефинисана коришћењем 7 променљивих. Креирана је електронска анкета и уредници часописа који редовно излазе у Србији, а чија је тема хемија и сродне дисциплине, су позвани да је попуне. Модел је евалуиран на основу одговора 50 уредника из 24 часописа. Предлагањем овог модела, желели смо да допринесемо разумевању процеса рецензирања и да понудимо „алат“ за евентуално побољшање ефикасности у уређивачкој делатности. Предложени протокол могу усвојити часописи у циљу утврђивања управљачких способности уредника.

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