

Improvement of Scientific Research; Software Package for the Publishing Committee

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Abstract The Publishing Committee is an internal committee in Scientific Organization. Its main role is to prevent the publication of scientific papers that contain private data. The Data Bank is take advantage of the existence of this committee to improve the scientific research and the skills of scientific employees in the Organization. The software package that has been created manipulates some recorded data. By turn, the output reports of these records will be used as a controllable tool in the improvement of the scientific research through two circulation modes; Circulation Mode of Paper Acceptance and Integrated Circulation Mode. The software package is based on Oracle 8.0 under Windows XP operating system. It is in Arabic language to facilitate the work of the intermediate education of the operator and the data entry employees.

Keywords - scientific authority, publishing committee, databank.

I. INTRODUCTION

A regulatory authority can be established into two separately main parts; Regulatory Sectors (RS) and Scientific Divisions. The duties of the regulatory sector are the performing of all regulatory works concerning the nuclear and radiological activities, such as; establishment of regulations, inspection, licensing, and reviewing of safety reports. On the other hand, the scientific divisions have the duty to solve all problems of research and development faced the RS through scientific studies [1]. Three scientific divisions are existed in the authority. By turn, each division is composed from three departments.

Databank is creating to improve the scientific management in the authority. The information systems in the Databank transforms all regulatory and scientific works performed in the form of data that can be easily retrieved. Additionally, it connects the different sectors by the flow of work, data and information. Also it enhances the quality and efficiency of the employees in the authority [1]. Figure 1 shows the two sectors and the virtual place of data bank [1].

Publishing committee in ENNRA is one of the internal and specific committee. The members of departments and divisions are sent there papers to the publishing committee before external/internal publishing. Publishing committee in ENNRA is one of the internal and specific committee. The two sectors are running by means of the scientific information and data. The committee is composed from; the president and vice president of the authority, the three heads of the three departments and some selected professors in the authority.

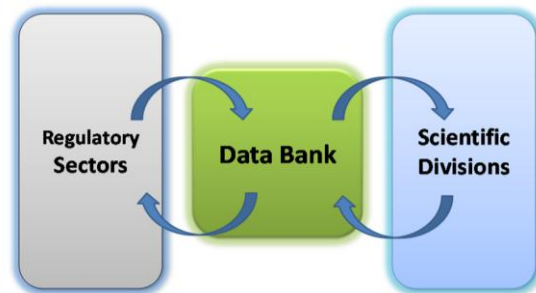


Fig. 1. Virtual Continuous Flow of Data and Information between the Two Sectors.

This committee, as main general task, prevents the publication of some private data that impact the security of work. All employees shall have the acceptance of publishing of papers in advance before sending them in journals or conferences. At time of employee promotion to assistance professor or professor, these publishing acceptances of all papers shall be presented to the promotion committee. The policy of this committee is not interfering or judging the quality of scientific work of the paper. The judgment of papers is left to the publisher side of journals and/or conferences. Concerning the reports, the committee selects three professors, interested in the same field studied in the report, to correct the quality of the report and permit its internal publication. Additionally, in advance, the committee gives an acceptance for the performing of these papers for post graduates employees.

The Databank can take advantage of the existence of this committee to improve the scientific research and the skills of scientific employees in the Authority without broken any policy of the committee. The software package that has been

created, manipulates some specific recorded data. By turn, the output reports of these records will be used as a controllable tool in the improvement of the scientific research. The software package is in Arabic language to facilitate the work of the intermediate education of the operator and the data entry employees.

II. ELEMENTS OF THE SOFTWARE PACKAGE.

The software package is consisted of principal 5 input data files, which reflects the available data of the real situation of the committee. Concerning the output data, the software package can offer unlimited output reports. Some of these reports can act as evidences about the level and progress that is performed by the employee in the scientific sector.

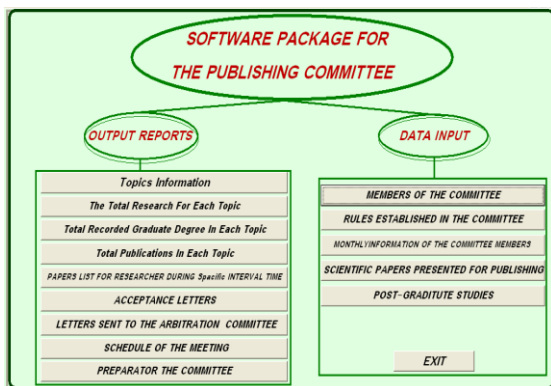


Fig. 2. Input Files of the Software Package.

III. INPUT DATA WINDOWS.

Structure of the committee, rules established in the committee, monthly information of the committee members, scientific papers presented for publishing, post studies and judgement of the reports are the input data required in the software package.

1- Members of the Committee.

Member code number [2], name, job, and working field of each professor of the committee are the put data required in this item.

2- Rules established in the Committee.

All rules that established concerning; the policy of the committee, criteria for selected members, etc... will be recorded in specific window.

3- Monthly report of the attendee Committee Members.

Meeting number of committee (the counting is restarted every year from 1), meeting date, code number of members of the committee, their name, and their situation of presence or absence.

4- Scientific papers presented for publishing.

a- Formal request Document.

The formal document is filled by the employee required acceptance for publishing. The old formal document of shall contain all possible information such as; name of employee and its code, paper/report code, date of sending, place of paper/report preparation, title of paper/report in english and arabic language, existance or not of nuclear elements, names and codes for the co-authors, and abstract of paper/report in english and arabic language.

Two additional information have been added to the new formal document; general and specific topic/field of the presented study in the paper/report for each author. The general and specific field for the co-authors can be different than the first author. Each author shall mention the contribution of his scientific field in the paper.

The follow window is the formal document, which concerns about the decision of the committee about the paper/report presented. This part is filled by the operator in the administrative office. Also, date of committee meeting and any comments of the

committee are represented in the new formal document.

5- Post-Graditute studies.

Additionally, no change is done for this formal document. However two information shall be added; general and specific field of thesis,

IV. OUTPUT REPORTS.

There is unlimited documents can be performed for the output files. These documents can be designed upon the request of the operators or/and the publishing committee. Meanwhile, an output file shall be existed;

The accepted formal document of the committee. This document contains; name of authors, paper code number, general and specific field of study, and date of acceptance.

The other requested output formal documents can be, as examples;

1- List of Papers for Specify Author in Limited Period of Time.

| The Total Papers for Especial Researcher | | | | | |
|---|---------------|---------------|----------------|-------------|---------------------------|
| During Interval / From: 01-01-2015 To: 01-07-2016 | | | | | |
| Researcher Name | | | | | |
| Researcher Code | Paper Title A | Paper Title E | Comit. Comment | Comit Desic | General Field of Research |
| | | | | | THERMAL HYDROULICS |
| | | | | | Total No.: |

2- List of total papers performed for specific author.

| The Total Papers for Especial Researcher | | | | | |
|---|---------------|---------------|----------------|-------------|---------------------------|
| During Interval / From: 01-01-2015 To: 01-07-2016 | | | | | |
| Researcher Name | | | | | |
| Researcher Code | Paper Title A | Paper Title E | Comit. Comment | Comit Desic | General Field of Research |
| | | | | | THERMAL HYDROULICS |
| | | | | | Total No.: |

3- Total Papers Performed in Specific Field.

| Topics Code / 1 | | | | | |
|--------------------------------|------------|-----------------|------------|---------------|--------------------------|
| Topics Name / REACTORS PHYSICS | | | | | |
| Specific Field | App. Date | Researcher Name | Paper Type | English Title | Abstract |
| | 01-02-2016 | | Paper | | |
| | 01-01-2016 | | Paper | | |
| | | | | | Specific Field count : 2 |
| | | | | | Topics count : 1 |

4-Total Publication in Each Field

| TOTAL PUBLICATIONS FOR EACH TOPIC | | |
|-----------------------------------|--------------------------------|---------------|
| Topics Name/ REACTORS PHYSICS | | |
| Specific Field | Research Code | Research Type |
| ARRANGEMENT OF FULE ASSEMBLY | 4-287010142200004 / 15-08-2016 | Paper |
| NEUTRONICS | 2-287010142200004 / 20-07-2016 | Report |
| Count : 2 | | |
| Topics Name/ I & C | | |
| Specific Field | Research Code | Research Type |
| AUTOMATIC CONTROL | 5-290070144100005 / 16-08-2016 | Paper |
| Count : 1 | | |
| Total Count: 3 | | |

V. APPRAISAL OF THE SOFTWARE PACKAGE IMPACT FOR IMPROVING SCIENTIFIC RESEARCH IN THE AUTHORITY.

The improving of the scientific research will be integrated through two circulation mode;

- 1- Circulation Mode of Paper Acceptance
- 2- Integrated Circulation Mode

1- Circulation Mode of Paper Acceptance.

This circulation mode is the ordinary mode. It started by an author in specific department. The board of department should approve the paper for the author after his presentation of the abstract. The formal request document of the author shall be signed by both of the chairman of the department (after board meeting) and the division. The formal signed request document with a copy of the paper in two forms solid and on CD) is delivered to the administrative office of the publishing committee. If the paper is written by more than one author in different department, each author shall have separate approval. After the publishing meeting, the formal accepted paper is sent to the author/s.

Note: in case of the existence of the network in the authority, the author send the paper, the abstract, and formal request document directly by e-mail to the administrative office.

Herein, some additional steps are added to the ordinary circulation. The author, after the publishing the paper in conference/journal shall send a copy of the paper to the Main Library of the authority. By turn, the library confirms the administrative office about the publishing step of the paper. The circulation mode is demonstrated in Figure 3.

Note: in case of the existence of the network in the authority, once the operator of the library record the paper in the library software, a signal is transmitted directly from the library software in the accepted paper of the publishing committee software package.

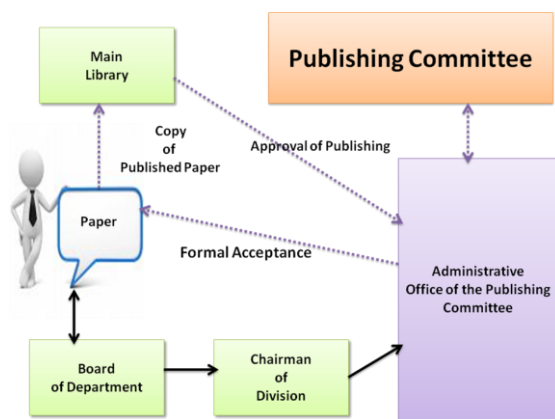


Fig. 3. Circulation Mode of Paper Acceptance

1- Integrated Circulation Mode.

It is a new circulation supplementary to the first one to form a complete integrated cycle of any scientific paper. It is going through three directions from the administrative office that acts as a start point. The first direction is by sending an annual report of the

scientific papers/reports to both board of department and division according to the papers sending by their members. Consequently, an annual report for comments and recommendations from each division shall be prepared for the Scientific Managerial group (SMG) [3]. The SMG, within different other reports, send the report to the Chief Leader for evaluation [2]. Meanwhile, the Chief leader receives the annual report of publication from the administrative office through a second direction. Concerning the third direction, it will be started in case of a request of an author about the list of his accepted papers for promotion purposes. After a signal/request from the administrative office of the publishing committee, the main library sends the list of published papers of the author to the promotion Committee. The Figure 4 shows the integrated circulation mode.

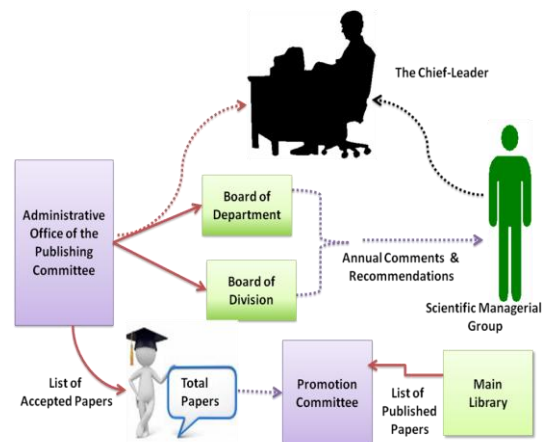


Fig. 4. Integrated Circulation Mode

VI. CONTRIBUTION OF EACH MEMBER IN THE CIRCULATION MODES TO IMPROVE THE SCIENTIFIC RESEARCH.

This section is discussed the role and contribution of each scientific entity to improve the scientific research.

1- The Author/s.

The author/s shall play the key role by considering ethics of the scientific research, such as;

- ❖ He shall keep the research papers in a specific field appropriate to his scientific degree, department and division scientific plans.
- ❖ He must consider internal reference researches in the Main Library to prevent any duplication of studies in the authority.
- ❖ If there are some similar work, the author shall indicate in his research these references and describing the differences in his study.
- ❖ The author should not write a paper that consider general field (such as; safety culture, self assessment, etc...) more than once per year to save efforts and time.
- ❖ In case of thesis, the student shall discuss the progress of the work with the board of

department regularly every three months. Additionally, the supervised of the thesis shall inform the board about any deviation or change in the thesis.

2- The Board of department and Division.

- ❖ The board of division shall prepare a yearly integrated scientific plan, in which all members in the three departments contribute in this plan.
- ❖ From title and abstract, the board of department shall verify that the subject of the paper presented by any member is in his specialty field and support the scientific plan of the department.
- ❖ The board of department shall discuss with the author, carefully, the idea of the paper presented, the previous studies in the same field, and the results reached to support the scientific plan of the department.
- ❖ The board of each department shall prepare an annual report concerning the comments and recommendations about papers/reports performed by their members (after receiving the reports of papers/reports from the administrative office of publishing). By turn, the three chairmen shall demonstrate and discuss their reports during the meeting of the board of division. The board of division can add its additional comments (if there are).

3- The Publishing Committee.

- ❖ The publishing committee should approve that the general and specific fields (these items are specified by the author and co-authors on the formal request document) are the proper fields within the abstract presented.
- ❖ The operators of the publishing software in the administrative office shall record all data at time.

Note: in case of the existence of the network in the authority, the delivery the official request document is recorded by the e-mail sending by the author.

4- The Main Library.

- ❖ The employee in the main library shall record the published papers (titles, general and specific field, abstract and copy of published paper) presented by the authors and informed the administrative office of the publishing committee at time.
- ❖ The employee in the main library shall record date, names, department and division, general and specific field of the authors who performed search in the library.
- ❖ The employee in the main library shall record the published papers in a way to facilitate the

surveys according to the general and specific field of the papers.

5- The Promotion Committee.

- ❖ The members of the committee shall receive from the employee (required promotion as assistant professor or professor) two formal documents; the first document from the administrative office of the publishing committee contains all paper titles, general and specific field, abstract, and their status (published or not). The second document is prepared from the main library contains all published paper titles, general and specific field, and abstract.
- ❖ The members of the committee shall ensure the similarity of the paper fields with the title field of promotion (scientific area) requested by the employee.
- ❖ The members of the committee shall ensure the similarity of the concept in abstracts in the two formal documents for each paper.

6- The Chief Leader.

The chief leader of the interface network group shall receive the two formal reports; the first is sent from the administrative office of the publishing committee. The second document will be sent by the scientific managerial group. The two documents with others are used for the evaluation reports analyzed from the chief leader as shown in Figure 4. This part will discuss and demonstrate later [2].

VII. CONCLUSIONS.

The improvement of scientific research is the primary key for the development of regulatory works. Consequently, the target of human and its environment protection from radiation activities can be reached. The present study demonstrates a software package for the publishing committee. The package is considered 6 input files and three output reports, as an example, in the present work. This software package is used as a tool for the improvement of scientific research through two circulation modes formed by the scientific entities (such as; sector, department, etc...). Despite that each entity has its specific duties, their circulation modes lead to:

- a. Kept ethics in the scientific work in the authority.
- b. Reduce probability of human error in documentation.
- c. Constraints and diversity in area specification.
- d. Sharing of different parties in the improvement of the scientific work.
- e. Identify the weakness points in each entity strategy.
- f. Direct employee to support authority objectives.

Finally, the package is prepared to be a flexible management tool for information that accepts any additional/change in the criteria of the committee.

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