

Full Length Research Paper

The degree of possession of the faculty members at Princess Alia University College for the skills on the use of databases and its relation to research performance

Mohammad Niqresh^{1*} and Khaldoon Al Dwairi²

Princess Alia University College, Al Balqa Applied University, Amman, Jordan.

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This study aimed to know the viewpoint of faculty members at Princess Alia University College on the degree of possession of the skills to use databases and its relationship with their research performance and to investigate the effect of gender, experience, qualification, and academic rank on the point of view of faculty members. The study sample consisted of 40 faculty members, males (17) and females (23) from Princess Alia University College. Means and standard deviations and t-test were used to analyze the results. The results showed that there were statistically significant differences in the views of the faculty members on the degree of possession of skills on the use of databases and its relationship with their research performance. It also showed a statistically significant difference at the level of significance ($\alpha \geq 0.05$) in their views attributed to the experience. There are statistically significant differences at the level of significance ($\alpha \geq 0.05$) in their views attributed to gender, and results also showed the existence of clear statistically significant differences in the views of the faculty members on the degree of possession of the skills on the use of databases and its relationship with their research performance by reason of qualification and academic rank variables.

Key words: Faculty members, skills to use databases, research performance, data bases.

INTRODUCTION

In light of the vast amount of information that the world is witnessing in the various thematic areas the access of the beneficiary to the information is no longer easy. Hence, it is necessary to use a specific mechanism to organize information and to retrieve it easily and quickly. The databases represented the mechanism used for that purpose, both in traditional form and in electronic form. Nonetheless, beyond that, where information security

could be achieved by making it possible to use the information of a private or confidential nature for specific people, using database management systems as means of organizing and configuring data is required. Many databases have been uploaded with bibliographical data, textual information, images, or audio files, and have been published in various thematic areas to serve academic disciplines as well as different aspects of life (Bamofleh,

*Corresponding author. E-mail: niqresh_m@yahoo.com.

2004).

The databases can operate in different environments. They may operate on mainframe computers and can be connected through terminals. They may operate in the client/server environment, the databases are stored on the server and a set of client devices are directly connected to them using software that allows it. The client and the server may communicate through an intermediary that hosts the applications needed to connect to the database and controls the number of users of the database under the environment multitier. The database connection may be made available through a Web server and an application server through which the client connects to the database server when using the web environment (Stephens and Plew, 2003)

Database is defined as a collection of information related to one another on a subject, usually structured in a way that makes it useful to provide a basis for procedures such as information retrieval, drawing, conclusion, and decision-making. Thus, any set of information serving these purposes is classified as a database, even if that information is not stored on the computer. Examples include files in which storage cards are stored and stored in filing cabinets, as well as a bibliographic catalog containing bibliographic records of information vessels. Both represent paper databases (Zinedine, 2009).

Information in the database is usually divided into records, which in themselves are a form or formula that serves as a useful index to fill in specific data, and each record contains one or more data fields. Although it is possible to create a database without dividing the record into fields, the presence of fields helps identify accidental data accidentally and can make the retrieval process faster (Bryan, 1990). The database is also defined as a set of related objects that include tables, forms, reports, queries, and scripts that have been created and organized by the Data Bases Management System (DBMS). The database may include information from any, such as a list of subscribers to a magazine, personal data about the names of staff members, a collection of images and geographical drawings, clips or video clips (Haasballah and Al-Shami, 2001). The database may be as simple as a shopping list or as complex as a set of thousands of text, audio, and video files. Simple databases contain searchable rows and columns, and relational databases allow users to retrieve data and allow them to reorganize it in multiple ways. Advanced databases allow users to store and retrieve all non-standard data from clips sound to 12 video clips (www.cnet.com/Resources/Info/Glossary/Terms/databases.html)

Significance of the study

Owing to the importance of training faculty researchers in using specialized databases to develop their research

capabilities, the present study will reveal to faculty researchers the research skills in electronic sources and databases that they should acquire to make the most of them. The results of several studies have shown the importance of training in providing trainees with electronic search skills. These studies include Christy (1995), who designed a program to train students and teachers of a middle school on Internet skills, including the use of databases; teachers have become more enthusiastic in using e-services to enrich the curriculum and as an additional source of lessons for the future. Students are now able to use the Internet to search for and obtain information to complete their homework.

Identifying e-research skills for researchers will enable them to understand many of the basic concepts in research, and will lead to the use of effective (successful) research strategies in databases and will put them on the first steps of successful research in databases. They will be able to encourage students to use these rules and will put in place the latest educational delivery systems, enhance the online search skills they need when they enter the field of work, and contribute to enriching scientific research both qualitatively and quantitatively.

Statement of the problem

Searching for information using the Internet is one of the most important activities of Internet users, as Internet searches are the second-largest activity after e-mail. Internet users use various search tools to access useful information distributed to millions of servers, the most prominent of these tools search engines that help speed up the search process to a large extent, as the search engines are the most important tools used to search sites available on the Internet. It can be said that search engines are more like dictionary catalogs in libraries, as it can be searched through all the entries that are likely to have pages on the Internet.

Databases are very valuable for researchers, but they must acquire the skills to use these databases, they must be trained well to use it. In this study, the researchers tried to investigate the faculty members' point of views about the importance of possessing such skills.

Study questions

- (1) What is the degree to which faculty members at Princess Alia University College possess skills to use databases?
- (2) Are there statistical differences in the views of the faculty members on the relationship of possessing the skills of using databases to the research performance according to the gender variable (male, female)?
- (3) Are there significant differences in the views of the faculty members on the relationship of possessing the skills of using databases to the research performance

according to the variable years of experience (5 years or less, more than 5 years)?

(4) Are there statistical differences in the views of the faculty members on the relationship of possessing the skills to use databases to the research performance according to the scientific qualification (Ph.D., MA)?

(5) Are there statistical differences in the views of the faculty members on the relationship of possessing the skills to use databases to the research performance according to the academic rank (Professor, Associate Professor, Assistant Professor, or Instructor)?

Definition of terms

Searching electronic: It is a research in the library by the researcher or one of the employees in the library via computer, instead of searching the sources of information printed by hand, where you can search the library index and databases published by specialized companies.

Specialized electronic databases: E-Databases is an organized list of published information sources (often journal articles or indices) that gives the researcher guidance, which is a reference citation of the article citation where he can find complete information about the article or provide it in its full text, full in the case of full-text databases. Each source has one information record, and the record consists of a set of fields, each field contains specific information about the source. The database searches for information in these fields. The way databases work is different, but there is basic information about databases that the researcher must know to qualify for all databases.

Virtual libraries: Libraries use computers and telecommuting to connect to a wide range of information sources. Tochtermann (1996) noted that the collection of the e-library consists of digital documents and Internet resources that are links to other documents stored elsewhere on the Internet. The electronic library controls the links, but not the documents associated with these links. The electronic library is provided with digital indexes of information on the collection of documents. The digital library also provides all the services offered by traditional libraries and the technology is in their favor.

LITERATURE REVIEW

Rajeh (2003) conducted a study on 116 faculty members in the faculties of science, economics, administration, and home economics at King Abdul Aziz University to study the extent to which they use the databases in the form of CDs and the motivation of faculty members to use databases in the library of students, the most common and least used rules in research and teaching, the

obstacles faced by beneficiaries, and their satisfaction with the search in the databases. Results of the questionnaire showed that 73.2% of faculty members use databases on CD-ROMs, and 48% use it for scientific research and 34.4% use it for teaching. The reasons for their lack of use of the teachers' rules are lack of knowledge about the rules (26.7%) and difficulty in using them (38.7%). The challenge faced by faculty members is the difficulty of providing full-text requests for journal articles produced by the research process (43.9%), lack of adequate bibliographic databases in specialization (38.7%), lack of databases in the language needed by the beneficiary (17.2%), lack of rules in the specialty of home economics (38.7%), lack of suitable rules (28.4%), and lack of training programs on the use of the rules (24.1%). The results of the study showed that 66.4% of faculty members use the competent staff in the library, and 92.2% of them need training programs on the use of databases.

Al-Jurf (2003) dealt with the skills to use databases available in the library. The researcher conducted a study on a sample of (152) female faculty members from King Saud University: faculties, languages, translation, all faculty members in the departments of Islamic studies and Arabic as well as English, in the College of Education for Girls in the literary department in Mecca; with a total number of 106 females. The results of this study showed that the percentage of faculty members who can extract research from electronic databases does not exceed 6%. The researcher concluded that the use of electronic databases will enable researchers to obtain a large amount of modern information in time and with little effort, and will lead to a quantum leap in the quality of scientific research. The pace of using databases is very limited as the total searches did not exceed all the databases of the University of Umm al-Qura during the whole year (3686) research. Considering the average use of databases in Arab universities once a year per students and faculty members, this is a waste of university funds knowing the cost of one database a year is 24,000 US dollars.

Al-Shawish (2002) conducted a study on the objective, quantitative, and practical trends of bibliographic databases available in the libraries of the city of Riyadh. The study found that majority of libraries that acquire these bases are specialized libraries, mostly medical libraries; most of the substantive coverage of the rules focused on the pure and applied sciences, which accounted for 61% of the databases available in libraries. In contrast, arts came with the lowest ratio of only 2%. It was found that 56% of the databases shared by libraries were on CDs compared to (44%) those available online.

Mashali (1999) conducted a study on a sample of (145) faculty members, postgraduate students and BA students at King Abdul Aziz University to identify the attitudes of the beneficiaries towards the use of databases on CD-ROMs, the obstacles they face when using them, and the interviews with library specialists. The results of the study

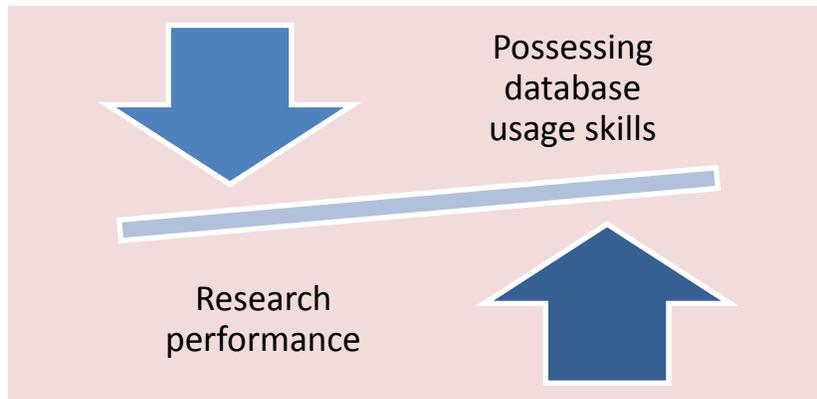


Figure 1. Data possessing and research performance.

showed that 40% of the beneficiaries of databases on CDs are 40% and distributed as follows: faculty members 5.5%, postgraduate students 30%, and undergraduate students 4.6%. The results of the study showed that the reasons for non-use of databases are: lack of knowledge of the availability of these rules in the library and the preference for research in the searchlights printed and lack of time and lack of knowledge on how to use it.

MacFarland (1997) used a questionnaire to evaluate the results of a training program for part-time faculty members who make up 60% of faculty members at the University of Northeastern Florida in the use of electronic information systems in the library for 12 weeks.

METHODOLOGY

Population of the study

The study population consisted of faculty members at Princess Alia University College, 125, for the academic year 2017/2018.

Study sample

The study sample consisted of a group of faculty members who were selected in a simple random way, the sample consisted of 40 faculty members. Table 5 shows the distribution of sample members by gender, years of experience, academic rank, and scientific qualification.

Research instrument

The research instrument consisted of a questionnaire developed to measure the views of the faculty members on the effect of possessing the skills to use databases in the research performance. The questionnaire included several variables such as gender, academic rank, years of experience, and scientific qualification.

Reliability of the questionnaire

To ascertain the reliability of the questionnaire, the researchers

applied it to a survey sample consisting of (30) faculty members at Princess Alia University College. They were excluded from the study sample and at least two weeks between the first time and the second time the questionnaire was distributed to reduce the transmission of the training effect. The reliability of the questionnaire was calculated using Alpha Cronbach correlation coefficients and it was 0.90, which is suitable for conducting such a study.

Study variables

Independent variables: Gender (male, female), years of experience (5 years and less, more than 5 years), Academic qualification (Master, Ph.D.), Academic rank (Professor, Associate Professor, Assistant Professor or Instructor).

Dependent variable: The views of the faculty members on their possession of research skills in databases and its relation to their research performance.

Study procedures

A questionnaire was distributed about the degree to which faculty members possess the skills to use databases and its relation to their research performance on 40 faculty members at Princess Alia University College, (17) males and (23) females. The researchers retrieved the questionnaires, collected the data, and analyzed the data statistically (Figure 1).

Statistical analysis

The results for each paragraph were analyzed in the questionnaire using appropriate statistical methods such as arithmetical averages, standard deviations, and t-test.

RESULTS OF THE STUDY

This study aimed at revealing the degree to which faculty members possess the skills of using databases in Princess Alia University College and its relationship to their research performance from their point of view. It also aimed to know the impact of gender, experience,

Table 1. Number of sample members according to the study variables.

| Variable | | Number |
|--------------------------|--------------------------------|--------|
| Gender | Male | 17 |
| | Female | 23 |
| | Total | 40 |
| Years of experience | Less than 5 years | 29 |
| | 5 years and over | 11 |
| | Total | 40 |
| Academic Rank | Professor | 12 |
| | Associate Professor | 10 |
| | Assistant professor or teacher | 18 |
| | Total | 40 |
| Scientific qualification | Master | 9 |
| | Ph.D. | 31 |
| | Total | 40 |

Table 2. The degree to which the faculty members of Princess Alia University College possess the skills to use the databases from their point of view.

| Item | Mean | Standard deviation |
|------|------|--------------------|
| 1 | 4.62 | 0.699 |
| 2 | 4.50 | 0.716 |
| 3 | 4.43 | 0.806 |
| 4 | 4.51 | 0.859 |
| 5 | 4.34 | 0.849 |
| 6 | 4.33 | 0.768 |
| 7 | 4.60 | 0.694 |
| 8 | 4.52 | 0.733 |
| 9 | 4.19 | 0.908 |
| 10 | 4.44 | 0.878 |
| 11 | 3.98 | 1.001 |
| 12 | 4.24 | 0.885 |
| 13 | 4.48 | 0.906 |
| 13 | 4.47 | 0.881 |
| 15 | 4.31 | 0.838 |
| 16 | 4.42 | 0.807 |
| 17 | 4.48 | 0.760 |
| 18 | 4.64 | 0.680 |
| 19 | 4.55 | 0.742 |
| 20 | 4.45 | 0.785 |
| 21 | 4.34 | 0.946 |
| 22 | 4.41 | 0.880 |
| 23 | 4.53 | 0.756 |
| 24 | 4.55 | 0.673 |
| 25 | 4.43 | 0.813 |
| ALL | 4.43 | 0.585 |

academic qualification on the rank, and scientific views of faculty members. Questionnaires were distributed to 40

managers, (17) males and (23) females in Princess Alia University College in Balqa Applied University. The mean, standard deviations, and T-test were used to analyze the results.

Results related to the first question

What is the degree to which the faculty members of Princess Alia University College have the skills to use the databases? To answer this question, a questionnaire was distributed to them. Mathematical averages and standard deviations were calculated. Table 1 shows the results. Table 2 shows the existence of statistical significance between the views of the faculty members at Princess Alia University College about the impact of possessing the skills of using databases on their research performance. The table showed the results of the questionnaire distributed to 40 faculty members about their view of the impact of having database usage skills on their performance. Means and standard deviations were calculated and the results showed that item 18 obtained the highest mean (4.64), followed by item 1 with arithmetic mean (4.62). The standard deviation of item 18 was 0.680 which is higher than ($\alpha \geq 0.05$) and that means it is statistically significant. The standard deviation of item 1 was approximately the same as it was (0.699), which is also statistically significant.

Results related to the second question

Are there statistical significant differences in the views of the faculty members on the relationship of possessing the skills to use databases to the research performance according to the gender variable (male, female)? To

Table 3. Arithmetic averages and standard deviations and t-test by gender variable.

| Gender | Number | Arithmetic average | Standard deviation | T | The degree of freedom | Sig. (2-tailed) |
|--------|--------|--------------------|--------------------|--------|-----------------------|-----------------|
| Male | 17 | 4.32 | 0.686 | -2.543 | 169 | 0.013 |
| Female | 23 | 4.54 | 0.426 | | | |

Table 4. Standard meanings and standard deviations and t-test results by experience variable.

| Experience | Number | Arithmetic average | Standard deviation | T | The degree of freedom | Sig. (2-tailed) |
|-------------------|--------|--------------------|--------------------|--------|-----------------------|-----------------|
| Less than 5 years | 29 | 4.27 | 0.723 | -3.388 | 169 | 0.001 |
| 5 years and over | 11 | 4.56 | 0.386 | | | |

answer this question, the arithmetical averages and standard deviations were calculated and Table 3 shows this.

Table 3 shows statistically significant differences due to the gender variable. The table shows the results of the questionnaire distributed to 40 faculty members who expressed their views on their relationship to the skills of using databases in their research performance. Mean averages and standard deviations were calculated and the results showed that female faculty members earned averages higher than male faculty members', with 4.32 and 4.54 respectively; this means that gender variable has an impact on the views of faculty members. The standard deviation of female faculty members was 0.426, which is higher than ($\alpha \geq 0.05$); so this means that it is statistically significant. The standard deviation of male faculty members was higher at 0.686, which is also statistically significant. Thus, Table 3 shows that there are statistically significant differences due to the gender variable and in favor of females.

Results related to the third question

Are there statistically significant differences in the views of the faculty members on the relationship of possessing the skills to use databases on the research performance according to the variable of years of experience (5 years or less, more than 5 years)? Means and standard deviations were calculated. Table 4 shows the results.

Table 4 shows the existence of statistically significant differences due to the variable of experience. The results of the questionnaire, distributed to 40 faculty members, show their views on their relationship to the skills to use databases in their research performance. Mean averages and deviations were calculated and the results showed that faculty members with experience fewer than 5 years had arithmetic mean less than the faculty members who have experience of 5 years or more, where the results were 4.27 and 4.56 respectively. This means that experience in the use of databases has a role in the

views of faculty members on the relationship of possessing the skills of using databases to their research performance.

The standard deviation of faculty members with less than 5 years' experience was 0.723 and this is higher than $\alpha \geq 0.05$, which means that it is statistically significant. The standard deviation for faculty members with 5 or more years of experience was less (0.386), which is statistically significant. Table 4 shows the existence of statistically significant differences due to the variable of experience and for those who have had 5 or more years of experience.

Results related to the fifth question

Are there statistically significant differences in the views of the faculty members on the relationship of possessing the skills to use databases on research performance according to the scientific qualification (Ph.D., MA)?

Table 5 shows the existence of statistically significant differences due to the variable of scientific qualification. The results of the questionnaire, distributed to 40 faculty members, show their views on relationship of skills to use databases in their research performance. Means and standard deviations were calculated and results showed that faculty members who are Ph.D. holders had average higher than that of faculty members with a master's degree (4.23 and 4.48) respectively and this means that the variable of scientific qualification has an impact on the views of faculty members.

The standard deviation of faculty members with a Ph.D. degree was (0.483) higher than ($\alpha \geq 0.05$), which means that it is statistically significant. Therefore, Table 5 shows the existence of statistically significant differences due to the variable of scientific qualification and for the benefit of faculty members of Ph.D. holders. Therefore, Table 5 shows the existence of statistically significant differences in the views of faculty members at Princess Alia University College, on the relationship of possessing the skills to use databases with their research performance

Table 5. Arithmetic averages and standard deviations and T-test results according to the variable of scientific qualification.

| Academic qualification | Number | Arithmetic average | Standard deviation | T | The degree of freedom | Sig. (2-tailed) |
|------------------------|--------|--------------------|--------------------|--------|-----------------------|-----------------|
| Master | 9 | 4.23 | 0.854 | -2.300 | 169 | 0.024 |
| Ph.D. | 31 | 4.48 | 0.483 | | | |

Table 6. Arithmetic averages and standard deviations and T-test results according to the academic rank variable.

| Academic rank | Number | Arithmetic average | Standard deviation |
|--------------------------------|--------|--------------------|--------------------|
| Professor | 12 | 4.31 | 0.658 |
| Associate Professor | 10 | 4.52 | 0.510 |
| Assistant professor or teacher | 18 | 4.66 | 0.297 |
| Total | 40 | 4.43 | 0.585 |

Table 7. Post hoc comparison between groups.

| Academic rank (I) | Rank (J) | Difference averages (I-J) | Standard error | Significance |
|--------------------------------|---|---------------------------|----------------|--------------|
| Professor | Associate Professor, Assistant Professor or Teacher | (*)-0.22 | 0.099 | 0.31 |
| | | (*)-0.36 | 0.13 | 0.009 |
| Associate Professor | Professor | (*)0.022 | 0.99 | 0.031 |
| | Assistant Professor or Teacher | -0.14 | 0.139 | 0.33 |
| Assistant Professor or Teacher | Professor | (*)0.36 | 0.13 | 0.009 |
| | Associate Professor | 0.14 | 0.139 | 0.33 |

due to the variable of scientific qualification and for the benefit of Ph.D. degree holders.

Results related to the sixth question

Are there statistical differences in the views of the faculty members on the relationship of possessing the skills to use databases on research performance according to academic rank (Professor, Associate Professor, Assistant Professor or Teacher)? Means and standard deviations were calculated and Table 6 shows the results.

Table 6 shows statistically significant differences due to the academic rank variable. The results of the questionnaire, distributed to 40 faculty members, show their views on the relationship of possessing database skills on their research performance at Princess Alia University College. Means and deviations were calculated and the results showed that the views of the professors were less than average followed by associate professors and then assistant professors or instructors who obtained the highest average (4.31, 4.52 and 4.66) respectively. This means that the academic level variable

has an impact on the views of the faculty members on the relationship of possessing the skills of using the rules of their performance statements at the Princess Alia University College.

The standard deviation of "Professor" is 0.658, which is higher than $\alpha \geq 0.05$; which means that it is statistically significant. The standard deviation of "Associate professor" was lower (0.510), which also means that it is statistically significant. The standard deviation of "Assistant professor" or "instructor" was the lowest (0.297). Therefore, Table 6 shows the existence of statistically significant differences due to the academic rank variable and for the benefit of faculty members who hold the rank of assistant professor or instructor. The researcher also conducted a post hoc comparison to illustrate the difference between the three groups: Professor, Associate Professor, Assistant Professor, or instructor. Table 7 shows the results.

Table 7 shows that the differences were statistically significant at $\alpha \geq 0.05$. The above results show that the views of the faculty members on the relationship of possessing the skills of using databases on their research performance at the Princess Alia University

College were positive. It also found that faculty members differed in their views according to their different scientific qualifications and years of experience.

CONCLUSION AND RECOMMENDATIONS

In light of the results of the study, the researcher concluded with some recommendations:

- (i) Provide studies to assess the performance of faculty members and how to develop their abilities and skills.
- (ii) Conducting comparative studies between the applications of the faculty members and the skills to use databases;
- (iii) Presenting a study of the professional obstacles of the faculty member and its impact on his application of the skills to use databases;
- (iv) Presenting studies that explain, the role of universities in developing the skills of using databases among their faculty members.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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