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Restoum, Maysoun and Wade, Steve

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# THE IMPACT OF LIBRARY PERFORMANCE ON STUDENTS' SATISFACTION

Maysoun Restoum<sup>1</sup> & Steve Wade<sup>2</sup>

*Department of Informatics, University of Huddersfield UK*

## **Abstract**

This paper aims to assess undergraduate students' satisfaction within the Arab International University (AIU). The results were addressed by conducting a questionnaire to a total of 228 of the undergraduate students of AIU, and by undertaken 8 interviews with the librarians involved to understand users' expectations and requirements of the AIU. The findings showed: a) a statistical significance of students' ability to find and use the information; b) a relationship between students' expectations and received materials; c) students were satisfied with library services' quality in terms of accessibility; d) a relationship between providing the newest and valuable collections and students' satisfaction; e) the most difficulties facing students were a lack of time and the ability to visit libraries; and f) the main services for students were borrowing books and references services. Furthermore, the findings illustrate statistically important differentiations on the satisfaction level on library collections between participants and faculties. A statistical significance between students' profiles and their satisfactions was indicated in terms of selecting the information resources.

**Keywords:** Arab International University (AIU), learning environment, library service quality, students' satisfaction and expectations.

## **1. Introduction**

Several studies have been addressed the relationship between users' satisfaction and quality of library performance (Pitt et al., 1995; Yu, 2006; Reilly and Westbrook; 1989 and Ankeny, 1991). Furthermore, the authors have been differentiated between the material satisfaction and emotional satisfaction (Yu, 2006; Arishee, 2000; Stamatoplos and Mackoy, 1998; Martensen and Gronholdt, 2003; Day, Lee, and Johnson, 1985; Applegate, 1995; and Dalrymple, P., & Zweizig, D, 1992). Additionally, demographic variables have been considered an important characterizes that influence users' satisfactions of the quality of library services (Arishee 2000; Shi 2003; Shi, Holahan et al. 2004; Yu 2006).

This paper discusses a part of the results of the questionnaire of undergraduate students conducted in the first phase of a PhD project to understand users' expectations and requirements of the AIU. Students' satisfaction in an academic library context, the models of users' satisfaction, and the relationship of users' satisfaction with demographic characteristics and users' needs are all reviewed in the next sections. Moreover, the subsequent sections introduce the research method conducted and the data analysed. Key findings and discussion are provided later on. Finally, a brief conclusion is drawn.

## **2. Students' Satisfaction in an Academic Libraries Context**

The literature has viewed Students' satisfaction (SS) in academic libraries (ALs) at the late of 1990s. The assessment of library services' quality in the higher education context has been dramatically changed to be focused on users' expectations and needs, marketing, thereby, increasing the level of the satisfaction (Brophy 2000; Nitecki and Herson 2000; Martensen and Gronholdt 2003; Brophy 2006; Kassim 2009; Kiran 2010).

Recently, librarians paid more attention to increase the level of users' satisfaction, deliver high-quality services and to meet and support users' needs in the educational process (Cullen 2001; Simmonds and Andaleeb 2001). In the same context, Kassim and Zakaria (2006) deem that the continuous update of the information resources is significant in terms of meeting the users' needs (Kassim and Zakaria 2006), whilst another study by Kassim (2009) indicates that the library services provided, structures, and the availability of collections and information resources are important aspects of the satisfaction. Additionally, the study finds out important

differentiations in the satisfaction level of the mentioned principles between the participants of the selected faculties (Kassim 2009).

Furthermore, Wang and Shieh (2006) realise a substantial constructive influence of library services quality on users' satisfaction. They believe that providing adequate library services that meet users' expectations and needs is a way of increasing the quality of library services provided (Wang and Shieh 2006). Nitecki and Hernon (2000) state that users' satisfaction is '*meeting or exceeding customer expectations, or as the difference between customer perceptions and expectations of services*'. Hence, satisfying users is related to understanding their expectations and subsequently establishing the gap between their expectations and the library services provided (Nitecki and Hernon 2000).

A crucial study was carried out by a research team at Glasgow Caledonian University in the 1990s, which indicates differentiation between users' needs and their assessment of the quality of the libraries. They recognise that users hold different perspectives in terms of how the performance of academic libraries should be measured. A number of factors associated with the answers were given by students, including educational level, personal information and experience, interest, usage and structure of the library, and finally group work (Crawford, Pickering et al. 1998).

## **2.1 Models of Users' Satisfaction**

As mentioned above, academic libraries have been articulated two models of users' satisfaction. The concentration of the first model was driven towards users' needs and *material obtainment*. In other words, the focus was made for what students have asked for and what they have obtained from the library (Tagliacozzo 1977; Zorn and Marshall 1995; Stamatoplos and Mackoy 1998; Arishee 2000; Martensen and Gronholdt 2003; Yu 2006). According to Applegate (1993), material satisfaction relies on the relationship between students' demands and received materials. In contrast, a second model emphasizes on the users' emotional satisfaction of library material and services (Tessier, Crouch et al. 1977; Plutchak 1989; Dalrymple 1990; Applegate 1993; Yu 2006)(Fenichel ,1980; D'Elia and Walsh, 1986; Dalrymple and Zweizig, 1992). Applegate (1993) and Yu (2006) deem that emotional satisfaction includes all emotions related to students' internal, personal and emotional satisfaction with the services received or the agreement of the information obtained. It is the explanation of students' feelings about the services provided, and is a standard of information system assessment. In this context, the researcher can ask the patrons of they are satisfied with the provided library services or not (cited by Yu, 2006) . On the other hand, the users' needs as a variable has been considered an important criterion in order to recognise the emotional satisfaction of users (Shi, Holahan et al. 2004). Moreover, Shi agrees with Applegate (1993) that meeting users' needs is the most important consideration when assessing users' satisfaction (Shi 2003).

## **2.2. Uses' satisfaction and users' profile**

However, several researchers such as Day, Lee & Johnson (1985), Applegate (1995) and Dalrymple & Zweizig (1992) have combined both models together in their studies in order to review a broader and in-depth picture of the users' satisfaction, other studies were conducted to investigate the demographic features of users. The finding of the studies differed from others. Sandore (1985) points out that there was no recorded difference between an users' profile and students' satisfaction, whereas Allen (1989) indicates that 'gender' affects students' satisfaction, where females hold a more positive attitude of the CD-ROM system (cited by Yu, 2006) . Furthermore, Arishee (2000) recognises an essential relationship associating users' satisfaction with quality of library services provided and other variables, such as length of stay, native language and English language proficiency, and academic levels of study, whereas another study shows no statistically significant relationship with user satisfaction in terms of other demographic variables, such as gender, age, and undergraduate major field (Arishee 2000).

### **3. Research Methods**

A questionnaire was designed in an attempt to understand the undergraduate students' expectations and requirements of the library services provided by AIULs. Critically, the questionnaire was formulated as a printed form and designed to take no more than 15 minutes to be completed. It was distributed by the researcher herself in English version.. Furthermore, 8 interviews were conducted with the librarians to obtain a deeper insight of the undergraduate students expectations and needs based on the librarians perspectives. The semi-structured interview was designed to take approximately 50-60 minutes.

Both methods (questionnaire and interview) were piloted to increase the validity and the reliability of the data collected in order to answer the research question and to reduce any ambiguity and difficulties that might arise in the procedures of the data analysis were eliminated (Bell 1999; Teijlingen and Hundley 2001; David and Sutton 2011). The sample of the questionnaire was selected randomly by the researcher to be 5% of the undergraduate students of the six faculties of AIU (Informatics and Communication Engineering, Architecture, Pharmacy, Civil Engineering, Business and Fine Art). The number of questionnaires distributed varied based on the number of patrons in each faculty. The questionnaires were distributed to 252 students of AIU. A total of 228 questionnaires was returned. Hence, 90% of the participants were involved in the research. On the other hand, The interviews were carried out in Arabic using a digital voice recorder (OLYMPUS WS-110) to increase the voice quality and to capture the richness of the conversation (David and Sutton 2011). The interviews were conducted after obtaining the permission from the University of Huddersfield, and after the agreement of the director of Information Resources. Furthermore, ethical issues were taken into consideration. The interviewees were informed that the personal data will be ignored for more confidentiality and security. Their permission was taken for conducting and recording the interviews. The interviews were designed and organized following several stages which starting with identifying the research aim and objectives, selecting the interviews' technique, designing the interviews, identifying the interviewees, piloting the interviews, conducting and recording the interviews, and analyzing and reporting the findings..

### **4. Data Analysis**

This paper adopted PASW version 18.0 in an attempt to code and analyse the data gathered from the questionnaire. Initially, data were entered and coded using numbers referring to the question options. Moreover, Excel was used in order to draw the outputs using charts and graphs to combine more than one variable in one figure. On the other hand, the data of the semi-structured interviews were entered, coded, and reviewed using NVivo 10. Software. A thematic analysis was adopted in order to identify the themes of the conducted interviews.

### **5. Key Findings and Discussion**

Demographic data were taken into consideration as an important aspect of data collection. The concern was made for the gender, age, users' status and faculties as significant variables affect responses. The finding reveals that more than 58% of the participants were male, and more than 65% belonged to the first category (18–22). This was expected when considering the fact that this is the normal age of university enrollment. Furthermore, approximately 27% of students involved in the research were in the third year of their studies. Since 0.5% of each faculty was taken as the research population, thus, the number of participants of each faculty was based on the whole number of users.

#### **5.1. Students' Satisfaction**

Academic libraries were considered a noteworthy place for obtaining and using information. Hence, it was expected that students visit/use the AIUL as long as obtaining information was required. Critically, undergraduate students of the AIU were asked if they were satisfied with their library's performance in terms of finding and using the information. Figure 1 shows the extent to which students thought their academic library met their needs in terms of finding and using information.

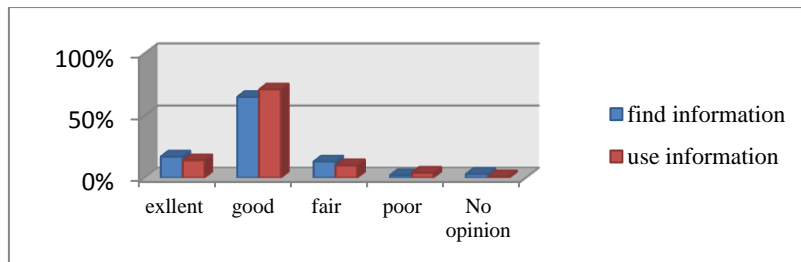


Figure 1: Users' satisfaction in terms of finding and using information (n = 228)

As can be seen in Figure 1, the majority of respondents believed that the libraries of AIU have valuable collections and equipment that support them in finding and using the information. The majority of participants; more than 65% thought that their library was 'good' for finding and using information, whilst less than 05% of them believed that finding and using information were poorly done. Furthermore, in order to discover whether or not students were able to find and use the information of AIULs, the Wilcoxon test was applied. The resulting median was found to be 'good' for both finding and using information, which is highly significant (p-value < .001). Therefore, the libraries received a worthy rate for providing information to students, irrespective of traditional and electronic services.

In the same context, the librarians of AIULs indicated that they provided efficient services to meet the users' requirements and, thereby, satisfy them. Hence, the material satisfaction was measured by offering sufficient collections of printed and electronic information resources whilst the emotional satisfaction was assessed by the direct communication and interaction between the users and the librarians. The librarian A indicated that:

*"I think they are satisfied 85%. The library is seeking to meet its users' needs by providing all requested items. The evaluation was done through communicating with them and asking them about their satisfaction with the services, collections and databases. Furthermore, accessing databases from and out the campus was a positive principle to satisfy them".*

However, in providing valuable and remarkable collections of published and e-information resources, this was considered an important principle in terms of establishing the quality of library performance and the meeting of students' expectations in regard to satisfaction (Nitecki and Hernon 2000; Martensen and Gronholdt 2003). With this noted, the findings of this study show statistical significance in relation to students' ability to find and use the information. Furthermore, the findings reflect Applegate's model of the material satisfaction (1993), where a strong relationship can be seen between students' expectations and needs, and received materials.

Critically, selecting information recourses was recognised as an important point to be taken into account in terms of accuracy, accessibility, cost, understandability, and year of publication. Figure 2 presents the rating of elements affecting the selection of resources.

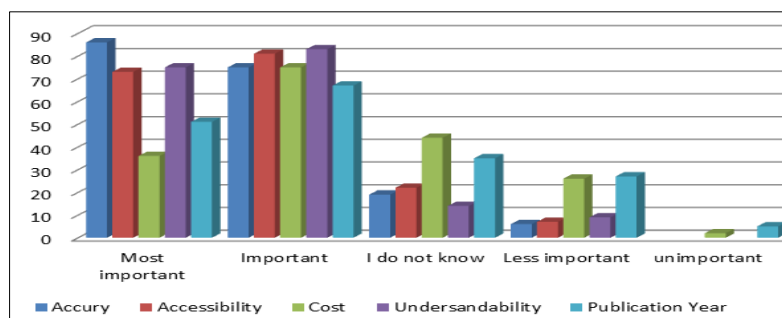


Figure 2: Rating of elements affecting the selection of resources (n = 228)

Figure 2 reveals that students' decision for selecting the information resources was affected by a number of aspects. Almost half of the participants (approximately 46%) considered accuracy to be the most important component influencing their selection of information resources, whilst they believed that accessibility, cost, understandability and year of publication were important factors, where the percentage of responses were less than 46%. In contrast, approximately 1% of participants found the cost to be an unimportant element affected their selection of the information resources, and less than 3% of them believed that the publication year was an unimportant aspect. Furthermore, the median of the Wilcoxon test was 2, indicating that these elements were essential and highly significant ( $p$ -value  $< .001$ ). Hence, in order to improve the effectiveness of the library in terms of selecting information and satisfying students, all the mentioned factors should be given considerable attention.

Critically, users' demands have widely changed due to the use of technologies in the librarianship domain. The librarians of AIULs were aware of the change of the libraries and librarians' roles in the digital age, as well as they were aware of the change of the users' needs. The librarians deemed that the key requirements of the users were obtaining updated and accurate information and accessing to a bulk number of databases rapidly and effortlessly. The librarian C stated that:

*“Students need precise information in order to graduate, especially, for a final academic year, while students of fourth year need accurate information to write their dissertation”.*

The current findings agree with those of Kassim and Zakaria (2006) which identify that providing the newest and valuable numbers of the collection and information resources was proposed to meet users' satisfactions and needs. Furthermore, the findings of this study indicate that students were satisfied with library services' quality in terms of the accessibility of the collection and information resources, as highlighted in the study of Kassim (2009).

## 5.2 Library Services

The questionnaire was emphasized on the most services used by undergraduate students in the academic libraries of AIU in order to understand students' expectations and needs. The services of AIU library ordered according to nine usages. In order to assess the relative importance for each usage, the arithmetic mean was computed (see Table 4).

Table 4: Rank of AIU libraries services

| Library services                    | Mean | Rank | Library services          | Mean | Rank |
|-------------------------------------|------|------|---------------------------|------|------|
| Borrowing printed books             | 2.91 | 1    | Reference service         | 3.67 | 3    |
| Borrowing e- books                  | 3.21 | 2    | Printing service          | 5.46 | 6    |
| Borrowing printed journals          | 4.60 | 5    | Photocopy service         | 5.70 | 7    |
| Accessing to e-journal and database | 4.54 | 4    | Books reservation service | 6.90 | 9    |

As shown in Table 4, the main services that seemed to be an essential for students were: borrowing books, either printed or electronic and reference services. Hence, libraries providing a considerable collection of information resources reinforces and meets students' needs, and thus enhances their satisfaction level (Pitt et al., 1995; Yu, 2006; Reilly and Westbrook; 1989 and Ankeny, 1991). As mentioned above, the libraries of AIU contain crucial collections of the newest and most valuable information resources, and students were found to be satisfied in terms of finding and using the information resource.

Since the role of academic library and librarians has changed due to adopting technology in the librarianship domain, new library services have emerged and new requirements were required. In the AIULs context, the librarians played a fundamental role in guiding, training, teaching and assisting users to obtain their required information and services provided. The librarian S explicated that the key roles for her as a librarian were training and guiding users to obtain the required information. She stated that:

“Meeting the needs of the users, teaching users the searching ways to access information, guiding, using the internet, searching in books, instructing them how to use references and electronic library, informing them with the library and circulation rules and everything new, making suggestions. My major role is guiding to the information, whether printed or electronic, databases or images, as well as training students at the beginning of every semester”.

### 5.3 Difficulties of Using Library Services

Critically, participants were asked to determine the difficulties and obstacles faced when using their libraries. Figure 3 reveals students’ difficulties of using the library(s).

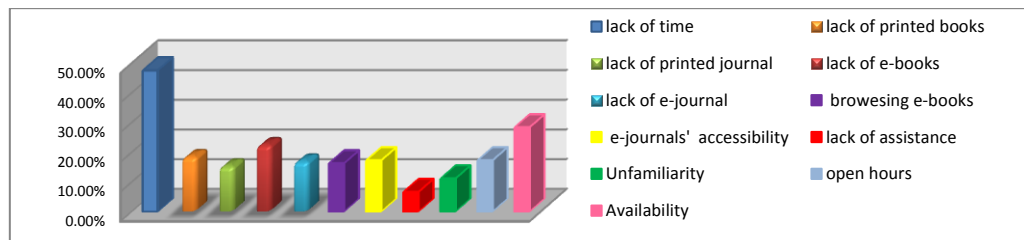


Figure 3: Difficulties of using library services (n = 228)

According to Figure 3, several difficulties were indicated. More than 47% of participants experienced difficulties in using their library due to a lack of time, whereas approximately 28% advised of difficulties in terms of the ability to visit libraries. On the contrary, less than 7% of respondents mentioned a difficulty related to the staff assistance. In addition, approximately 11% stated unfamiliarity with the use of library services. Furthermore, the librarians agreed with the undergraduate students that the lack of time was the most common difficulty faced students through their use of the library and its resources. The librarian K stated that:

“The problems and difficulties are the lack of time and the slowness of the internet network. Furthermore, the librarian must have technical and searching skills”.

Kassim (2009) found in her study that participants were satisfied with the opening hours as a service provided by the library. While, the findings of this study showed that students were not satisfied with the library’s opening hours, which they rated as a common difficulty facing them when using their academic libraries. The variation of the results between Kassim’s study and the current study was based on the difference of the both universities culture and polices.

### 5.4 Comparison of Students’ Satisfaction with Demographic Variables

Mann-Whitney and Kruskal-Wallis tests were carried out to compare the difference between the rate of finding and using information and demographic variables (see Table 4). However, the independent variables revealed significant differences in terms of information resource elements (see Table 4).

Table 4: Statistical tests for comparing the rate of important elements in terms of personal variables

| Variable      | Response              | Test               | p-value  | Variable          | Response              | Test               | p-value      |
|---------------|-----------------------|--------------------|----------|-------------------|-----------------------|--------------------|--------------|
| <b>Gender</b> | Accuracy              | Mann<br>Whitney    | .072     | Level of<br>study | Accuracy              | Kruskal-<br>Wallis | .012**       |
|               | Accessibility         |                    | .004**   |                   | Accessibilit<br>y     |                    | .031**       |
|               | Cost                  |                    | <.001*** |                   | Cost                  |                    | .043**       |
|               | Understand<br>ability |                    | .120     |                   | Understand<br>ability |                    | .373         |
|               | Publication           |                    | .110     |                   | Publication           |                    | <.001**<br>* |
| <b>Age</b>    | Accuracy              | Kruskal-<br>Wallis | .007**   | Faculty           | Accuracy              | Kruskal-<br>Wallis | .053         |

|  |                   |  |          |  |                   |  |        |
|--|-------------------|--|----------|--|-------------------|--|--------|
|  | Accessibility     |  | <.001*** |  | Accessibility     |  | .008** |
|  | Cost              |  | .203     |  | Cost              |  | .669   |
|  | Understandability |  | .018**   |  | Understandability |  | .010** |
|  | Publication       |  | <.001*** |  | Publication       |  | .717   |

Note: \*Significant at the 0.05 level of significance

\*\*Highly Significant at the 0.01 level of significance

\*\*\* Very Highly Significant at the 0.001 level of significance

As revealed by the data in Table 6, the gender, age, level of education and faculty groups showed a significant difference (p-value= .004, <.001, .031 and .008) in the interpretation with respect to accessibility. In terms of accuracy, significant difference was noted due to the age and the level of study (p-value = .007 and .012). In addition, the gender and level of study groups resulted in a significant difference (<.001 and .043) for the cost, whilst age and faculty groups led to a significant difference (p-value = .018 and .010) for understandability. Finally, with respect to the publication, the age and level of study groups resulted in a significant difference (p-value = <.001). It can be seen that the level of significance provided by the Mann Whitney and Kruskal-Wallis tests were different from one personal variable to another based on students' needs of the information required.

The findings differ from the findings of Sandore (1985), which highlight no recorded difference between the users' profile and students' satisfaction. The findings further show a statistical significance between students' profiles and their satisfaction in terms of selecting information resources. On the other hand, the findings corresponded with the findings of Allen (1989), which indicates 'gender' as an important indicator affecting students' satisfaction (cited by Yu, 2006). Furthermore, the findings are related to those garnered by Arishee (2000), who suggests a fundamental relationship associating users' satisfaction with the academic levels of study, whilst the current study differs with this, and shows no statistically significant relationship with user satisfaction in terms of other demographic variables, namely gender and age.

## 6. Conclusion and Future Work

The paper provides an attempt to explore the satisfaction undergraduate students within the libraries of AIU in Syria. The questionnaire was designed to understand students' expectations and needs in order to improve the library services provided and to support them in their learning environment. For further investigation, 8 interviews were conducted with the librarians of the AIU.

The findings show a statistical significance of undergraduate students' ability to find and use information. A strong relationship was further recognised between students' expectations and needs, and received materials. The findings indicate that students were satisfied with library services' quality in terms of accessibility of collections and information resources, and further determined that providing the newest and most valuable collections and information resources will help meet users' satisfaction and needs. The most common difficulties facing students through the use of libraries were a lack of time and the ability to visit libraries whenever and wherever. On the other hand, the main services that seemed to be essential to students were borrowing books (either printed or electronic) and reference services. In contrast, the librarians indicated to their changed role of the academic libraries as a result of the information revolution and technology adoption. Furthermore, the findings illustrate statistically important differentiations on the satisfaction level on library collections between participants and faculties. A statistically significant link was established between students' profiles and satisfaction in terms of selecting information resources.

The questionnaire was carried out followed by another questionnaire and interviews in order to determine the different stakeholders' perspectives, which were academic staff, librarians, and administrators. It is anticipated that the investigation will assist in terms of clarifying the whole picture of the AIULs by applying the soft system methodology as a framework to guide the research, which will further contribute to developing the library management system, increasing



the level of satisfaction, and meeting their needs in order to support them in their teaching and learning environment.

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