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# **The Impact of Providing Information resources on End-users' Satisfaction**

## **Case study: the Library of Arab International University in Syria**

### **Abstract**

**Purpose-** The purpose of this paper is to measure end-users' satisfaction with information resources (IRs) provided in the Arab International University Library (AIUL) in Syria. It attempts to investigate to what extent the provision of IRs can affect the end-users satisfaction.

**Design/methodology/approach-** This study was conducted using a printed questionnaire for undergraduate students, and a Smart-Survey for academic staff.

**Findings-** Results reflected that the end-users were satisfied with the IRs provided. Furthermore, the results showed that providing sufficient quality and quantity of the IRs increases the satisfactory level. In addition, a relationship between the end-users' satisfaction and demographic variables is articulated.

**Limitations-** This study limited to one private academic library in Syria which is the AIUL. This paper concentrates on a part of results collected in terms of understanding end-users' needs. The emphasis was made to assess the satisfaction of undergraduate students and academic staff, while other stakeholders (Librarians and Administrators) were excluded in this research.

**Originality/value-** The significance of this research is to shed light on the academic libraries of Syrian private universities which is recently founded. It is important to understand the end-users' needs by assessing their satisfaction of the library performance, in addition to exploring the relationship between the satisfaction and the demographic variables.

**Paper type-** Research paper

**Keywords-** End-users, Satisfaction, AIUL, demographic variables, Information Resources.

### **Introduction**

Academic libraries (ALs) are considered the "heart" of academic institutions. They are an appropriate place to obtain information and deliver information services. The role of ALs has changed as a result of adopting information technology that affected ALs and education systems in general. However, this adoption has positively influenced ALs, it made ALs more complex and challengeable for users (Cullen, 2001; Kassim, 2009). Although the technology facilitates the access to the IRs and provide new format of the library services, end-users require to develop their skills in order to deal with a new ALs' environment.

Assessing the value of the IRs and the satisfactory level of them has been considered essential to enhance the library performance. Traditionally, measuring the library performance has been accomplished based on the numbers of the IRs offered and physical visits. Many years later, the emphasis has been made for marketing, meeting users' needs, and increasing the end- user satisfaction (Adeniran, 2011; Kiran, 2010; D.A Nitecki, 1996) .

This paper discusses a part of the results of a PhD project which aims to meet the end-users' expectations and requirements of the AIUL in Syria. The following section presents an overview of the literature in users' satisfaction, followed by an explanation of the research

methods used. Then, the results are undertaken and discussed relating to the research objective. Finally, the research concludes on the findings.

## Literature Review

End-users' satisfaction in ALs has been significantly articulated in the literature review since the late of 1990s. It has been considered an indicator to assess the quality of the IRs and library services perceived (Bergman & Holden, 2010; Cullen, 2001; Jayasundara, 2008). Furthermore, several studies have been addressed the relationship between the end-users' satisfaction and the quality of library services and IRs provided (Pitt et al., 1995; Yu, 2006; Reilly and Westbrook; 1989 and Ankeny, 1991). Critically, measuring the level of the library performance has been shifted from traditional measurement; based on the number of the IRs and the library staff, frequencies of attendance, and budget; to be focused more on social and commercial issues of a service quality such as marketing, end-users' needs and satisfaction (Brophy, 2006; Kassim, 2009; D. A Nitecki & Herson, 2000). It is a result of adopting the technology in the ALs and educational process.

Several authors (Adeniran, 2011; Dadzie, 2005; Kassim, 2009; Kassim & Zakaria, 2006; Majid, Anwar, & Esienchitz, 2001; Martensen & Grønholdt, 2003) have indicated the main features that lead to increase the end-users' satisfaction as demonstrated in table 1.

**Table 1 features of end-users' satisfaction**

	E/IRs	Library Services	Staff	Convenient Environment	Technical Facilities	Equipment
(Majid et al., 2001)	√	√				√
(Martensen and Grønholdt, 2003)	√		√	√	√	
(Dadzie, 2005)	√					
(Kassim and Zakaria, 2006)	√					
(Kassim, 2009)	√	√		√		
(Adeniran, 2011)	√			√		

Table 1 presents that providing e/IRs; which means providing various types of information materials such as books, journals and reference in a printed or electronic formats; is an essential feature to increase the level of the end-users' satisfaction. Hence, enhancing the library performance is based on a set of features which should combine for better achievement. Providing an adequate collection of e/IRs is an important feature to increase the end-users' satisfaction.

- **Uses' Satisfaction and Demographic Variables**

Demographic variables have been considered substantial characteristics influenced end-users' satisfactions with the IRs. Several studies have been conducted to investigate the demographic characteristics of the end-users and the relationships between them and other

variables (Arishee, 2000; X Shi, 2003; Xi Shi, Holahan, & Jurkat, 2004; Yu, 2006). However, Sandore (1990) points out that there is no difference recorded between students' profile and students' satisfaction, whereas Allen (1989) indicates that 'gender' extremely affects students' satisfaction. He states that females hold more positive attitude of the CD-ROM system. Furthermore, Arishee (2000) determines an essential relationship of end-users' satisfaction on the quality of library services, IRs and other variables, such as length of stay, native language and English language proficiency, and academic levels of study, whereas another study of him shows that no statistically significant relationship with user satisfaction in terms of other demographic variables, such as gender, age, and undergraduate major field. Furthermore, Kassim (2009) concludes significant differences in the satisfaction level between participants and their faculties respecting to a structure, IRs, and high quality of service. Therefore, demographic variables should be taken into consideration as important variables can affect the end-users' satisfaction when ALs seek to assess their library performance.

## **Case Study: AIUL**

The AIUL was established in 2005. It seeks to support its users in terms of providing a high quality of services, copious and appreciated collections of the IRs and high academic standards. The library consists of a central library and five branches (Computer & Communication Engineering, Business Administration, Pharmacy, Civil Engineering, Architecture and Fine Arts) established to cover the end-users' needs.

All library branches work under the umbrella of the Information Resource Department. The library provides a set of essential services such as circulation, book reservation, and free access to online services. In addition to a collection of the IRs which are available online. Obviously, it contains of **22000** printed books, **14000** e-Books, **60** printed periodical titles and **22890** e-journals. Moreover, these collections cover a wild range of general and specific subjects related to the institutions specialization domains at AIU (AIU, 2011). Open shelves and the OPAC are being adopted in order to serve patrons. They are all fully automated and up-to-standards regarding MARC, DDC, AACR2, and hosted by HORIZON 8.0.

## **Research Methods**

A printed questionnaire was distributed to undergraduate students (USs) in order to measure their satisfaction with the library performance, while Smart-Survey was implemented to the academic staff (AS) for the same purpose. The distributing different format of the questionnaires for different stakeholders was relied on the AIUL's decision. In this paper, a part of the collected data from both questionnaires has been presented to determine the satisfactory level of the end-users with the provision of IRs.

The questionnaires were piloted to increase the validity and the reliability of the data collected. It is anticipated that the investigation will assist to increase the level of satisfaction and meet their needs in order to support them in their educational environment.

## Key Findings

SPSS version 18.0 has been conducted to code and analyse gathered data. Moreover, Excel was used as well in terms of drawing the outputs used diagrams to combine more than one variable in one figure. Data from 228 out of 252 printed questionnaires of the USs were gathered responded from six faculties, while a total of 30 out of 205 Smart-Survey of the AS from the same faculties were returned. Demographic data for both end-users were taken into consideration as an important aspect of data collection. (See table 2)

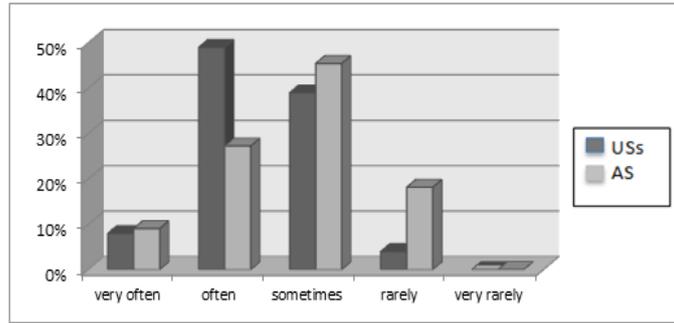
**Table 2 demographic data of the end-users of the AIUL**

USs			ASs		
Statistic Data	Categories	Percent	Statistic Data	Categories	Percent
<b>Gender</b>	Male	58.3%	<b>Gender</b>	Male	51.72%
	Female	40.8%		Female	48.28%
<b>Age</b>	18-22	65.8%	<b>Age</b>	Less than 30	6.90%
	23-27	26.3%		30-39	27.59%
	28-32	5.3%		40-49	44.83%
	33+	1.2%		50-59	13.79%
				60+	6.90%
<b>Users' status</b>	1 <sup>st</sup> year	14.0%	<b>Teaching experience</b>	1-5 years	25.00%
	2 <sup>nd</sup> year	21.5%		6-10 years	21.43%
	3 <sup>rd</sup> year	27.2%		11-15 years	32.14%
	4 <sup>th</sup> year	21.5%		16-20 years	14.29%
	5 <sup>th</sup> year	14.5%		More than 20 years	7.14%
<b>Faculties</b>	Business	22.8%	<b>Faculties</b>	Business	21.43%
	Fine Arts	8.3%		Fine Arts	14.29%
	Pharmacy	26.3%		Pharmacy	14.29%
	Civil Engineering	9.2%		Civil Engineering	14.29%
	Architecture	11.8%		Architecture	14.29%
	Informatics and Communication Engineering	21.5%		Informatics and Communication Engineering	21.43%

As seen in table 2, the concern was made for gender, age, end-users' status/work experience and faculties. For the USs, the data demonstrate that approximately 60% of the participants were male; more than 65% were belonging to the first category (18-22). Additionally, in terms of users' status; over 27% of USs were in the third year. Similarly, for the faculties, 5% of each faculty has been taken as a research population. Thus, the number of participants of each faculty was based on the whole number of users. In contrast, for the AS, approximately 52% were males; less than 45% were belonging to the age group (40-49); more than 32% of them had (11-15) years as experiences of teaching; and over 20% of them were equally from faculties of Business and Informatics and Communication Engineering.

- **End-Users Satisfaction: Accessing the AIUL**

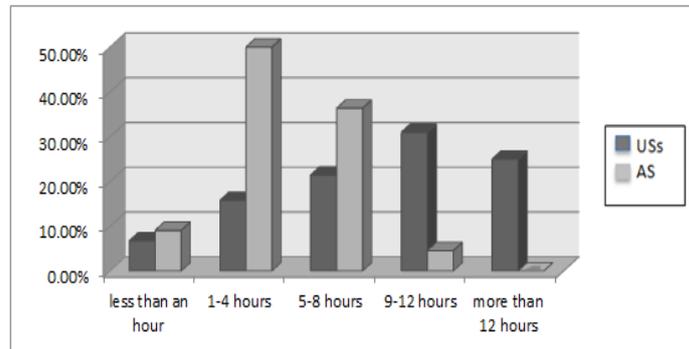
Participants were asked to indicate to what extent they used to interact with the AIUL. Figure 1 illustrates the frequency of end-users access.



**Fig 1 Frequency of users access**

As demonstrated in figure 2, approximately 49% of the USs “often” used to access the AIUL, while less than 30% for the AS. Furthermore, approximately 39% of the USs, and more than 45% of the AS accessed the AIUL “sometimes” regarding to their needs. Conversely, less than 5% of the USs and over 18% of the AS accessed the library rarely. The frequent access reflects the end-users satisfaction on the AIUL, and indicates that their access to the library was based on their needs.

Furthermore, the participants were asked to identify how many hours they used to spend in the AIUL per week. (See Figure 2).



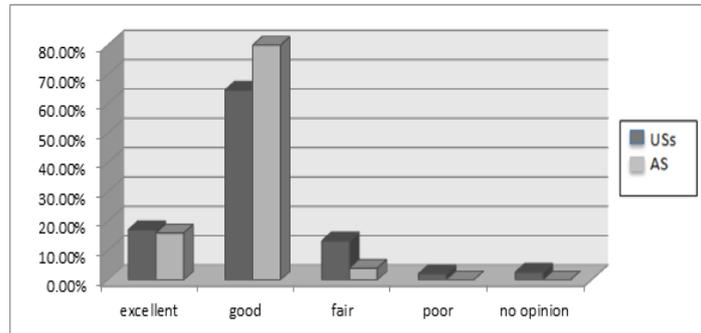
**Fig 2 Time spent weekly in term of accessing AIULs**

According to figure 2, a distinct difference between the USs and AS in terms of spending time in the AIUL was recorded. Approximately 50% of the AS attended the AIUL between (1-4 hours) per week. Additionally, 30% of the USs visited the AIUL between (9-12 hours) weekly, while less than 5% for the AS. On the other hand, approximately 25% of USs visited the library(s) for more than 12 hours. That might be because the USs used the library as a place and to use the library services and the IRs, while the AS may access the AIUL just for borrowing printed IR due to their busyness all the time in teaching and research, while they might access e-IRs from their offices or houses.

- **End-users’ Satisfaction with Finding Information**

Since ALs have considered an essential place in which IRs are collected for the purposes of using and meeting the end-users’ needs of information, the end-users were expected to show

interest in terms of finding the IRs. Thus, they asked to rate their satisfaction with finding the information required. (See figure 3).

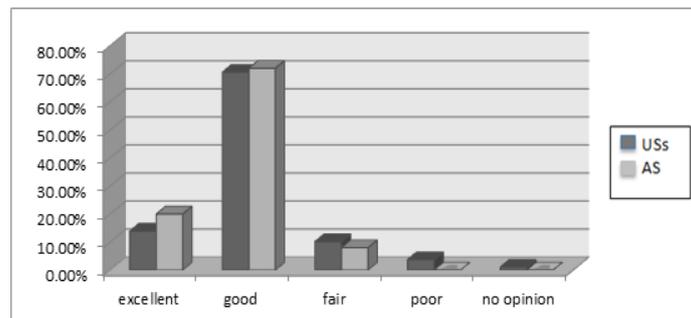


**Fig 3 The end-users' satisfaction with finding information**

According to figure3, the majority of the participants believed that the AIUL offered a valuable collection supporting them in terms of finding the information. Approximately 65% of USs deemed that the library was “good” for finding information, and in the same trend, 80% of AS were rated the library “good”. In contrast, approximately 2% of the USs deemed that it was “poor” in terms of finding information. That reflects that the IRs were systematically organised in which it was easy to find the information.

- **End-users’ Satisfaction with Using Information**

Since the questionnaires were investigating the end-users’ ability to find the required information, it was crucial to diagnose to what extent they were able to use it. Figure 4 demonstrates the end-users’ satisfaction in terms of using the discovered information.

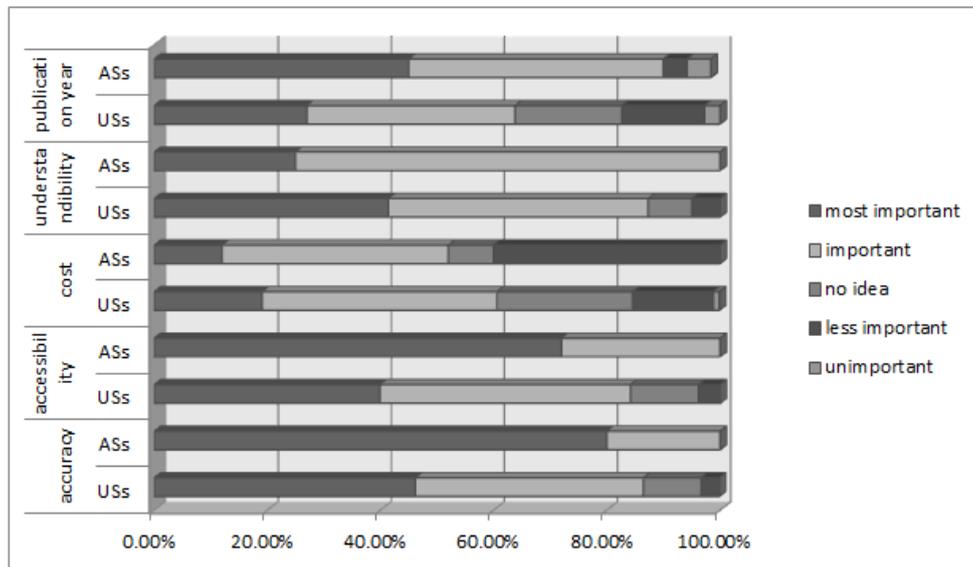


**Fig 4 the end-users' satisfaction with using information**

Figure 4 presents that the majority of end-users for both the USs and AS were satisfied in terms of using information. More than 70% of them rated their ability to user information to be “good”. Moreover, less than 20% of them deemed that it was “excellent”, while less than 5% of the USs rated using information to be “poor”. That reveals that they had a tolerable level of skills required to use the information

- **Elements Affecting The selection of Information Resources**

Critically, investigating the importance of a number of elements, which might affect the end-users decision in terms of selecting IRs, were taken into consideration. The elements were accuracy, accessibility, cost, understandability, and year of publication. (See figure 5)



**Fig 5 rating of the elements affecting the selection information resources**

Figure 5 reveals that the end-users’ decision of selecting the IRs was affected by a number of elements. The majority of the participants; more than 45% of the USs and 80% of the AS considered that the accuracy was the “most important” component influenced their selection of IRs. In contrast, the cost was “less important” element to select IRs for both end-users; it was more than 15%. Obviously, publication year was addressed to be “most important” element of the AS more than the USs; where it was more than 40% of the AS, while it was resulted approximately 25% for the USs. Hence, to improve the effectiveness of the ALs in terms of providing IRs and satisfying its end-users, all the mentioned elements should be drawn a considerable attention.

- **Comparing End-users’ attitude in terms of accessing the AIUL**

Since demographic data can give an indication of how questions may vary from one demographic variable group to another. Therefore, the differences in the responses due to the demographic variables were tested by: [1] the Mann-Whitney test to compare two independent groups of samples, and [2] The Kruskal-Wallis for more than two groups. (See table 3).

**Table 3 Statistical tests for comparing accessing of library in terms of demographic variables**

Independent Variable	Test	USs P-value	ASs P-value
Gender	Mann-Whitney	.369	.440
Aqe	Kruskal-Wallis	.253	.004
Level of study	Kruskal-Wallis	.082	.008
Faculty	Kruskal-Wallis	.132	.303

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

Critically, the tests show that no significant differences were addressed by conducting for both the USs and the AS in terms of gender, age, level of study/teaching experience and faculties. Hence, the motivation to access the AIUL might be similar for all participants regardless their interest or specializations.

- **Comparing End-users' Attitude in Terms of Finding and Using Information**

Mann-Whitney and Kruskal-Wallis tests were conducted to compare the difference between the rate of finding and using information and demographic variables of the participants. (See table 4).

**Table 4 Statistical tests for comparing the rate of finding and using information in terms of demographic variables**

Variable		Test	P-value USs	P-value AS
<b>Gender</b>	Find information	Mann-Whitney	.227	.347
	Use Information		.348	.347
<b>Age</b>	Find information	Kruskal-Wallis	.067	.005**
	Use Information		.340	.014
<b>Level of study/ teaching Experience</b>	Find information	Kruskal-Wallis	.043	.079
	Use Information		.590	.006**
<b>Faculty</b>	Find information	Kruskal-Wallis	.003**	.331
	Use Information		<.001****	.605

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

Table 4 did not reveal any significant difference in finding and using information in terms of gender for both the USs and AS. However, Kruskal-Wallis test for age groups of the AS resulted in a highly significant difference in term of finding information (p-value= .005). Furthermore, it discovered a highly significant difference of teaching experience in terms of using information (p-values are .006). That indicates that the AS's ability of finding and using information might increase regarding the advance of the age and the experience. In contrast, Kruskal-Wallis test discovered a highly significant difference in terms of using and finding information for the USs due to the results of faculty groups where the (p-values= .003 and <.001) respectively; these results looked as interesting since the library may give different attention in terms of providing the IRs with the faculties according to their specializations.

- **Comparing End-users' Attitude in Terms of Elements Affecting The selection of Information Resources**

Mann Whitney and Kruskal-Wallis tests were performed to explore the significant differences in the end-users in terms of determining the elements of IRs. See table 5.

**Table 5: Statistical tests for comparing the rate of important elements in terms of demographic variables**

Variable	Response	Test	P-value USs	P-value ASs
Gender	Accuracy	Mann Whitney	.072	.686
	Accessibility		.004**	.810
	Cost		<.001***	.574
	Understandability		.120	.178
	Publication Year		.110	.052
Age	Accuracy	Kruskal-Wallis	.007**	.372
	Accessibility		<.001***	.847
	Cost		.203	.104
	Understandability		.018**	.305
	Publication Year		<.001***	.207
Level of study / Teaching experience	Accuracy	Kruskal-Wallis	.012**	.162
	Accessibility		.031**	.619
	Cost		.043**	.566
	Understandability		.373	.306
	Publication Year		<.001***	.338
Faculty	Accuracy	Kruskal-Wallis	.053	.633
	Accessibility		.008**	.457
	Cost		.669	.908
	Understandability		.010**	.256
	Publication Year		.717	.189

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 in table 5, demographic variables show no significant difference for the AS in terms of accuracy, accessibility, cost, understandability and publication years. In contrast, the level of significance provided by Mann Whitney and Kruskal-Wallis was different from one demographic variable to another based on the USs' needs of the information required. for the USs, they showed a significant difference (p-value= .004, <.001, .031 and .008) in interpretation with respect the accessibility. While for accuracy, the significant difference was noted due to the age, level of study (p-value=. 007 and .012). In addition, gender and level of study groups resulted in a significant difference (<.001 and.043) for the cost, while age and faculty groups led to a significant difference (p-value= .018 and .010) for the understandability. Finally, with respect to publication, age and level of study groups resulted in a significant difference (p-value=<.001). That reflects that the USs might be more interaction with the IRs than the AS due to they need further information to paper their assignments and exams.

## Discussion and Conclusion

The aim of this study is to assess the impact of the IRs on the level of end-users satisfaction. The findings showed that the USs tended to access the AIUL and spend time more that the AS. Critically, the current findings affirm that providing a copious and valuable collection of the IRs will increase the level of the end-users' satisfaction. These findings also confirm the finding of Martensen and Gronholdt (2003), Majid et al (2001) and Nitecki and Hernon (2000) who indicated that providing efficient collections of e/IRs is an important principle to increase the library performance and the end-users' satisfaction.

Furthermore, the findings show that the accuracy is the most important element affected the end-users' decision in terms of selecting the IRs. In addition to other important elements which are accessibility, understandability, and publication year. These findings partially

support the finding of Kassim (2009) who highlights that students are satisfied with library service quality in terms of the accessibility to IRs. Hence, establishing appropriate channels to access and deliver the information is crucial in the ALs context.

Seemingly, the current findings show that no significant difference between the end-users' satisfaction and demographic variables in terms of accessing the AIUL. Furthermore, they present no significant difference in finding and using information in terms of gender for both the USs and AS. This finding supports Sandore (1990) findings who suggested that no difference recorded between end-users' profile and students' satisfaction. In contrast, the current finding differs from Arishee's (2000) findings who found a significant relationship between demographic variables, IRs and satisfaction; however, the current findings are in agreement with Arishee's (2000) findings in the same context. The current findings demonstrate that the age of the ALs affects their ability of finding information, while teaching experience influences them in terms of using information. Contrary, there is a highly significant difference in terms of using and finding information for the USs due to the results of faculty groups. Therefore, demographic variables influence the end-users' satisfaction on IRs diversely regarding their category of the end-users, as well as according to their personal variables. Thus, demographic variables should be taken into consideration when ALs seek to assess the users' satisfaction.

Based on the finding of this study, it was concluded that the users of the AIUL were satisfied with the IRs provided, however, there is a need to enhance these IRs for further satisfaction. Adopting a strategy to control the processes of acquisition, and standards regarding the number of potential end-users are recommended to promote the library performance in terms of providing the IRs. Furthermore, providing subject librarians and marketing the IRs efficiently were suggested as well to increase the end-users level of satisfaction. Further research will conduct to compare end-users' satisfaction between the AIUL in Syria and University of Huddersfield in the UK.

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