The Growth of Electronic Journals in Academic Libraries in Saudi Arabia

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Abstract

Saudi Academic Libraries (SALs) have been moving towards using electronic resources since 1992. This study aims to investigate the changes in electronic journals (bibliographic and full-text databases) and printed journal collections and acquisition, namely; number of titles, type of provisions, acquisition budgets and costs, for the period 1995-2000. The survey method was used to obtain the data. The instruments used in this study were questionnaires, which were distributed to six selected academic libraries in Saudi Arabia. The study compared the subscription prices of electronic and print journals and compared the increase of electronic journals to the decrease of printed journals in general works (general references), humanities, social sciences and applied science and technology via full-text CD-ROM networks, online databases, global academic networks, and the Internet. The percentages were used to show the differences between the increase & the decrease of electronic journals and printed journals collections and budgets. The most important findings show that the percentage of electronic journals collections increased rapidly in all SALs between 1995 and 2000 (8.1%-21.1%), where the percentage of printed journals collections started to decrease slightly in all SALs between 1997 and 2000 (17.2%-15.7%). The electronic journal acquisition budget (5.1%-26.8%) increased double of printed journal acquisition budget (15.3%-18.0%) in the same time period. The percentage of electronic journals acquisitions was very high in applied science (61%) and appears that most of the electronic journals that SALs subscribe to were on CD-ROMs networks (82%).

Introduction

   Effective planning for future academic libraries requires library managers to balance the complex situation between being able to afford user's preferences for electronic journals and the shrinking budgets for academic libraries. Within the past two decades, the cost of new information technologies, and shrinking library budgets have had a combined effect on academic libraries failing to fulfill their mission as information providers. Moreover, prices of serials and periodicals have increased rapidly while the information explosion has produced more materials than any library can afford to purchase. At the same time, Online and CD-ROM products have placed new funding burdens on libraries. Saudi Academic Libraries (SALs) have moved towards a shift from print format to electronic format. This study aims to determine the growth of e-journal acquisitions in comparison to print journals in six SALs between 1995 and 2000.

       An electronic journal is defined as the grouping of information, which is sent out in electronic form with some regularity. It covers any serial or serial-like publication available in electronic format, which is produced, published, and distributed nationally or internationally (Nisonger, 1998). It is applied to the library services as a full-text and as an access to information about individual journal articles (Woodward, 1994). "A peer-reviewed or edited" and "a journal, including indexing and abstracting services, provided by any electronic means (Ashsroft,1999). The study will consider two provisions (bibliographic and full-text databases), which are available in online, CD-ROM networks, global academic networked, and via Internet format.

Previous work:

Shemberg and Grossman assessed whether technology has made electronic full-text journals and journal articles in academic libraries a viable method of scholarly communication. The study surveyed all the ARL (Association of Research Libraries) institutions in the USA, as well as any universities classified as a higher education institution. Only 5.45% do not offer any full-text electronic journals and all libraries surveyed have Web-capable computers available for their users. The Online Public Access Catalogues (OPACs) and other e-services are available in both types of libraries (Shemberg and Grossman, 1999).

Ashcroft and Langdon investigated the benefits of and barriers to the purchase of Electronic journals in university library collections in the UK and North America. A result worth noting is that the North American responses demonstrated a higher level of evaluation than in the UK, namely 64% of institutions carrying out evaluation compared to 30% in the UK. Another result concerns who is responsible for electronic journals decision-making. 38% of UK librarians were responsible while the North American respondents showed that faculty made these decisions, usually with librarian assistance or the assistance of collection development professionals. As regards purchasing, there is much more evidence of consortia purchasing occurring in North America than in the UK (Ashcroft and Langdon, 1999).

Brennan and Burkhardt describe the experience a multi-sites higher education library consortium had in purchasing electronic journals and databases. The criteria and guidelines developed to assist in the decision-making process for the purchase of multi-disciplinary electronic products and services can be of value to other libraries whether singular or in consortium. Factors such as database features, coverage, search features, and delivery options were considered (Brennan and Burkhardt, 1999).

Diedrichs states that vendors and agents have a plethora of reports, databases, and tools that can be used by libraries in support of collection assessment as well as the day-to-day process of acquiring library material. The paper reviews the current status of these tools particularly as they relate to monographic acquisitions including selection, in-print titles, out-of-print titles, and exchange of duplicates and serials acquisitions including management reports, document delivery, and electronic journals (Diedrichs, 1999).

Current studies review:

Research findings from PURCEL (purchasing decisions of electronic resources in higher education institutions HEI), in a study done for JISC JCALT and prepared by the University of Sunderland, Glasgow Caledonian University, the University of Abertay Dundee, Queen Mary's University London, and University College London, show a weakness in existing models and an inadequacy to meet the challenges of the electronic environment. Therefore, institutions may consider the short-term option of adopting separate funds for print and e-resources. The study also concludes that an appropriate policy framework for purchasing decisions for e-resources underpins effective assessment of potential purchases and establishes standards against which usage and user satisfaction can be measured (Joint Information Services Committee, 2000).

Gessesse examines the concepts and problems that an academic library must consider in order to align its collection development activities with the changing environment of digital librarianship in the twenty-first century. Both print and digital information must be selected, organized, preserved and delivered. The availability of electronic journals made libraries re-examine and redesign other collection development practices. The growth of full-text databases made libraries consider acquiring materials on a needed basis (Gessesse, 2000).

Montgomery's study in the Drexel Library describes the impact of electronic journals on staffing, shifting workloads, and new job responsibilities. Administration, management, and the computer network infrastructure all saw increases in responsibility (Montgomery, 2000). Mercer describes the problems encountered in trying to collect and analyze vendor information for use in service evaluation and decision-making. Results show users accessing the electronic journal s in numbers far exceeding the print collection (Mercer, 2000). The e-libraries programme (eLib) which was funded by the Joint Information systems committee (JISC) in the United Kingdom explored the pricing models to electronic journals

subscriptions, licensing agreements, and infrastructure requirements (Evaluation of the electronic libraries programme, 2000). JSTOR (Journal Storage: the scholarly journals archive) is building journal backfiles related to costs. They are also reducing long-term capital and library operating costs. It guarantees online availability of backfiles and it discards old journal runs without decreasing services to users (JSTOR, 2000).

Johns describes a grant-funded research project to relocate selected print journal runs, for which an electronic version is available, to remote storage on shelves of campus libraries at California University. Data of costs, usage of print and electronic journals are used to develop long-range strategies and policies (Johns, 2001). Gyeszly compared the annual subscription prices and the percentage increases of 203 core-printed journals with their electronic counterparts in the disciplines of political science and economics during 1998-2000. The complete list of electronically available titles was identified and priced. Pricing information and use statistics were for both electronic and printed resources (Gyeszly, 2001).

Bluh and Boissy state that a successful selection is carried out systematically, and ultimately results in improved management and control of the serials collection. Systems people need to know not only what does not work, but also more importantly how it does not work. Does the system or the functionality never work, or does it work sporadically? No serials system can sell today if it does not have a coherent strategy for managing e-journals and locally stored digitized collections. Where should the various tools and databases necessary for e-journal management reside? If a more clearly articulated strategy for managing electronic serials were developed, some of the redundancy in the storage of licensing information in databases belonging to the publisher, the agent, and the library could be eliminated. Serials librarians must cope with a constant flow of changes to titles, publication frequencies, fund codes, and even vendors. Managing these changes consists of two distinct processes: (1) finding out that a change is needed, and (2) having a system that makes the changes easy to accomplish (Bluh and Boissy, 2002).

Emery states that, although a national library has extra dimensions to consider, all types of libraries are having to consider the effect of electronic acquisitions on their organizational structure. In order to avoid the selectors forum having to review every title, the database records were circulated to core selectors so that everyone could express an interest in a product selected by someone else. The manager responsible for the budget authorized all orders and invoices. The Library's finance system codes for literature and staff times were rationalized, so that an accurate picture of the resources devoted to electronic acquisition could be gained. Information on expenditure was derived from the local MS Access database and from the Library's finance system, not from the acquisition systems. Savings from print and CD-ROM cancellations were taken into account when assessing the total amount spent; this often proved to be a complex calculation, with various permutations of overlapping categories being considered. It can take a variety of forms, reflecting the size, nature and structure of the library. Each organization should review the different models, ranging from extending the span of existing jobs to creating a new section, and select the one best suited to its own circumstances (Emery,2001).

Gardner states that the preconference to the twentieth (2000) Annual Charleston Conference was the third in the ongoing Charleston Advisor Preconference Series on evaluating, selecting, and acquiring electronic resources. The session focused primarily on the evaluation of electronic resources after purchase, the premise being that tracking use of the many electronic resources offered by libraries is one of the most difficult challenges facing collection development librarians and the creators of electronic products. A lack of context may be present regarding the timing of statistics collection. Librarians need to be careful not to compare statistics drawn from one time frame with those drawn from another. There are no standards for measuring use across all of the formats in which information can be accessed, for example print, CD-ROMs, and Web-based materials. Many agreed that they had to develop statistical sets for internal use before attempting to provide data to customers (Gardner,2001).

Studies in elseware:

Schulz outlines the challenges inherent in electronic journals that have led some libraries in Australia to develop databases to assist in their management. These challenges include: new subscription options, new ways of providing access and new staff involved in acquisition; an increase in complexity in the supply chain; license restrictions; the volume and volatility of electronic journals; and, changes for collection development. The first part of the paper contains a discussion of these challenges and the resulting e-journal management database solutions, with examples provided from the Griffith University Library Electronic Resources Database (ERD). The second part of the paper focuses on the long-term viability of e-journal databases by examining the future evolution of the e-journal, alternatives such as integrated library systems and subscription vendors, and collaborative endeavors (Schulz, 2001).

Lee states that the KRIC (Korea Research Information Center) was unable to buy full-text articles of every desired foreign journal and provide them to Korean researchers without additional charge due to the astronomical price demanded by the copyright owners. The overseas information service companies that negotiated with KRIC demanded that they be paid by the "number of sites" concept rather than the "number of users" concept. In other words, if KRIC intended to provide the overseas information to everybody in Korea, then it would have had to pay for all the sites that could provide KRIC service. Considering that all universities and research institutions could be potential sites, there could be more than a thousand sites. The KRICs proposal was that paying by "number of users" should be applied, since there were relatively few users on the system at a given time because this system was available only for registered researchers (Lee, 2002).

Ratchatavorn stresses the importance of Thai use of electronic journals. A number of search techniques appropriate for use within the electronic environment are described. The article concludes with specific suggestions for enhancing the effectiveness of Thai use of electronic journals (Ratchatavorn, 2002). Ke and others analyze usage of the Taiwan-based Science Direct Onsite E-journal system, one of the largest and most heavily used full-text Science, Technology, and Medicine (STM) databases worldwide (Ke,2002).

Current situation in Saudi Arabian Libraries

In Saudi Arabia, some Academic Libraries have been using electronic journals since 1992, and others since 1995 (Bamofleh, 1998). Also the Internet started to be used in Saudi Academic and Research Libraries in 1999. The researcher believes that this development will make many changes to SALs collection management policies. In 1998 Bamofleh wrote a thesis evaluating the impact of CD-ROM technology on SAL, and found that having such technology led to most universities canceling their printed periodical subscriptions. She advised other researchers to use corroborative-networked CD-ROMs, and not to cancel their printed periodical subscriptions without covering them on electronic journals (Bamofleh, 1998).

The budgets were cut even more dramatically after the Gulf War in 1991 and continue to be a problem as SALs have kept pace with technological advancement including OPAC, online and CD-ROM searching, LANs, and full-text databases on CD-ROM (Siddiqi, 1998). As well as the insufficient independent budgets there was also the lack of professional librarians and the absence of a library association to create general Saudi library legislation and planning (Al-Otaibi, 1993). These problems have increased during the last ten years as SALs have accepted more and more students each year. The statistics for the Saudi Arabian Ministry of Higher Education for the year 2000 show that SALs registered 172339 undergraduate students, 1286 diploma students, 2390 master degree students, and 1109 PhD students (Saudi Arabian Ministry of Higher Education statistics, 2000). Both that King Saud Universit Library (KSUL) and King Abdul Aziz University Library (KAAUL) are the largest size in student numbers among all universities, and the others are varied from one to another. This might caused the differences between institutions in electronic and printed journals collections, for example between King Faisal University Library (KFUL) and KAAUL. Another reason for this differentiation that both KAAUL and King Fahad University Library of Petrol and Minerals (KFUPML) are the only university libraries which launched electronic

journals in 1995. One more reason in the differentiation between SALs is the subject coverage of electronic journals collection in each SALs, for instance KFUPML is specialized in Applied, Pure Science and Technology while the others have specialized in different disciplines.

There are many problems facing the Deanship of SALs. Bamofleh`s study shows one side of these problems, that KFUPML deals with the largest number of publishers namely 12 publishers. KSUL deals with 7 publishers and KAAUL only subscribes to the databases of 8 publishers despite the fact that its collection of disks is the largest in any university library. This is because it is keen to acquire databases issued by the least number of publishers, as the variations in research software produced by different publishers cause difficulties for users. UMI uses special software called ProQuest, Silver Platter Information uses its own program which is called SPIRS, Knight Ridder uses Dialog Ondisc Manager, and Wilson uses Wilson Disc software. ISI uses ISI Proprietary while ACM uses CD-Answer software.

It is clear that Saudi university libraries are keen to subscribe to the products of as few publishers as possible and this is made possible by the fact that some of the famous disk databases are sold by more than one publisher. This allows libraries to select a suitable publisher. Despite this these libraries sometimes still face problems. For example, it was found that KFUPML subscribes to seven disk databases issued by seven different publishers because these databases are important and they are not published by any other publisher- the library deals with. KAAUL, KFUPML and KFUL are keen to deal with the lowest number of publishers. This means they will select products issued by one of the publishers they deal with and this in turn will facilitate search programming.

For example, KAAUL subscribes to an Applied Science and Technology Index issued by Silver Platter even though the product is also issued by Wilson. It also subscribes to Medline issued by the same publisher (Silver Platter) even though it is also issued by Knight Ridder and CD Plus Technologies. Silver Platter Information search software is one of the simplest research disk database softwares and because of this it is the most used software in Saudi university libraries accounting for 32% of the total foreign disk databases acquired by these libraries. 45 % of the databases subscribed to by KAAUL are published by 38% of King Saud University Library databases are issued by the same publisher. The research simplicity of SPIRS is considered the most important factor that puts it top of the disk database list of publishers. It is worth mentioning that Silver Platter beat its competitor Compact Cambridge in the early nineties because of the simplicity of its research software. Due to the competition in this field, Compact Cambridge struck a deal with Silver Platter which stipulated that the latter could distribute the Compact Cambridge database and market it after supplying it with Silver Platter research software SPIRS. Silver Platter supplies software to teach the use of databases. It is called database demo.

Perhaps cancellation by KAAUL of its subscription to the database CINHAL and the World Marketing Statistics of the publishers EBSCO Publishing is considered the least important evidence to research programs when choosing publishers. When the library found that the publishers research program was not working well when connected to the network it cancelled its subscription to both databases. Despite the fact that simplicity of research software is considered one of the factors affecting the selection of publishers; the cost, updating intervals, and the coverage limits should also be taken into consideration as other factors affecting the selection of publishers when a specific database is issued by more than one publisher. Maybe one of these other factors forced KAAUL to subscribe to the ERIC database published by Knight Ridder instead of that published by Silver Platter (which holds the first position), and might be the reason why KFUPML preferred to subscribe to Applied Science and Technology Index issued by Wilson instead of that issued by Silver Platter. The reason for that is because Wilson has no license agreement that imposes restrictions on utilizing databases or connecting them to a network. Furthermore Wilson research software facilitates selection by providing alternatives making the use of its programs easier than some users think. KSUL decided to subscribe to NTIS Database which is published by Knight Ridder despite the fact that it deals with Silver Platter and KFUPML subscribes to the copy issued by Silver Platter .

Bowker Saur holds second position among publishers that the Saudi universities deal with. This is because it publishes specialized data in the field of librarianship and information which help KAAUL, KFUPML and KFUL to perform technical operations. Bowker Saur publications include (Global Books In Print), (Ulrich Plus), and (LISA). UMI ranks third as it publishes most of the specialized and general textual databases that libraries subscribe to, such as, Business Periodicals Ondisc (BPO), Social Science Index/Full Text, in addition to some bibliographical databases such as Dissertation Abstracts (Bamofleh, 1998).

Another problems (from the annual reports of KSUL 2002 and KAAUL 2001) can be summarized as the following :

1- The great lack in financial resources in the last couple of years caused the weakness in the acquisition collections from both quality and quantity aspects. One important reason caused this situation is the lack of annual budget existence which is suitable, and should be awarded from all library managers. Thus makes it very hard for the library to direct their resources towards the best channels. The best solution for SALs is to re evaluate and review the estimation of library budget allocation that match the continues increase in users numbers from academic libraries and also match the varity of different subjects for teaching and research needs. The amount of money required as part of the next five years plan was not approved.

2- The lack of library staff member numbers year after year, while the number of library users and the number of acquisitions and services are increasing at the same time. One should mention, that there is a great need to increase the number of professional in academic library and concentrate to increase the specialized quality in library, information, and computers applications training programme with the ability to handle English language and computing aspects.

3- Users` needs: Bamofleh's study found that the guidebooks and training programs were the least important aspects in user's satisfaction. The users were generally satisfied with the CD service, 46.7% of them were completely satisfied while 43.3% were satisfied to some extent. 32.1% of the users showed their readiness to pay fees in return for composing their research findings on CDs. The suitable fee from their viewpoint was less than one riyal per page what so ever the form of the retrieved data. Most of the users' suggestions concentrated on their desire to make the libraries increase their subscriptions to CD databases whether for full text or bibliographical data. They also wished that libraries should arrange training programs to teach them to use the CD system, in addition to suggestions to expand the scope of the CD network (Bamofleh, 1998). In 2001, Rajeh had studied the faculty members attitude towards bibliographic databases in KAAUL, the study shows that the most important difficulties facing them are: the difficulties of use with 38.7%, rareness of availability of the articles with 30.1%, the suitability of their subjects with 28.4%, no awareness of these databases with 26.7%, and the lack of training programme which help to use these databases with 24.1% (Rajeh, 2001).

4- The limitation of cooperative and cooperation activities: from the conclusion of Siddiqi PhD study about Saudi academic libraries, it appears that there is no organized resource sharing system among them, although opportunities are presented, ILL policy only followed in KFULPN, the study has determined that if a formal, obligatory, and regular ILLN is established among SALs, it will lead to cooperation and coordination (Siddiqi, 1998). SALs still not applying any cooperative collection development for electronic journals such as consortia, {CALIM in Manchester, the M25 group in London, and SCRUL in Scotland}. Also there is no appearing for journal aggregation services for publishers in SALs which provide an integrated access to a range of electronic journals such as Blackwell electronic journal navigator, SwetsNet, and BIDS journals online, and European Business ASAP.

Initial survey of e-journals in SAL

The researcher of this study has noticed while working in the central library at King Abdul-Aziz University (KAAUL), that the usage of electronic journals is expanding and becoming an important factor in the library. This phenomenon is also happening in all SALs. They started subscribing to online and CD-ROM databases, either in Bibliographic or Full-text provisions, and finally via the Internet. The researcher has also noticed that the central library in KAAUL has been canceling most, if not all, its printed journal subscriptions since 1995, because of budget reduction. During the same time the library has implemented an electronic journals system. According to Bamofleh, neither electronic journals collections nor printed journals collection alone can satisfy user's needs. That situation occurred when SAL canceled their printed journals without having them covered on electronic journals. It happened also for the following reasons: the printed journals were not currently updated; and the electronic journals provisions tend to fulfill Applied Science and Technology disciplines, whilst ignoring some parts of other disciplines, such as Humanities and Social Sciences (Bamofleh, 1998).

In this study, survey method was used as a research methodology and a questionnaire was sent to vice-deans on 13th September 2001 to get primary information about six different academic libraries all over KSA to determine the size of journal collection titles, acquisition budgets and costs, and electronic journal provisions in different disciplines in SALs from 1995 to 2000. 100% of the questionnaires were returned back one month later but it took longer to have information checked. The study aimed to give statistical records in order to establish management databases which help to give reports to help library managers in their different managerial levels to take the right decisions in SALs.

Statistical methods

Excel was used in this study to find out the percentages to compare (increase and decrease) between printed journals and electronic journals collections and the amount of their acquisitions budgets among universities between 1995 and 2000. Excel was also used to produce the other graphs such as plotting and bar chart.

Saudi Academic Libraries (SAL)

The entire population of this study consists of:

1- Imam-Mohamed Bin Saud Islamic University Library (IMUL) was established in 1951 in Riyadh.

2- King Saud University Library (KSUL) was established in 1957 in Riyadh.

3- King Abdul-Aziz University Library (KAAUL) was established in 1967 in Jeddah.

4- Umm-Al-Qura University Library (OMAUL) was established in 1971 in Makkah.

5- King Fahad University of Petroleum and Minerals Library (KFUPML) was established in 1975 in Dhahran.

6- King Faisal University Library (KFUL) was established in 1976 in Damam and Ehsaa.

Survey analysis:

1. **The size of journal collection titles within each university library**

Figure 1: Printed journals collection in SALs between 1995-2000.
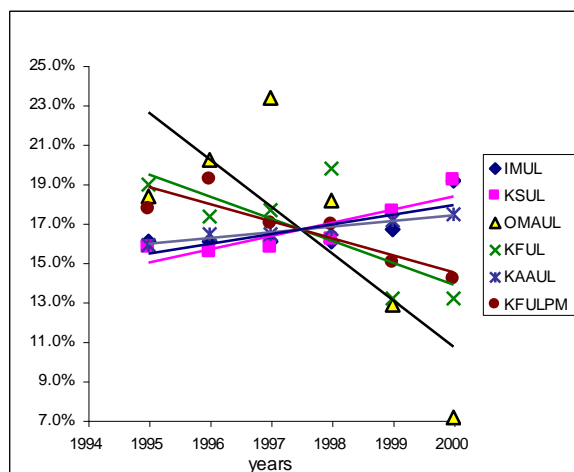

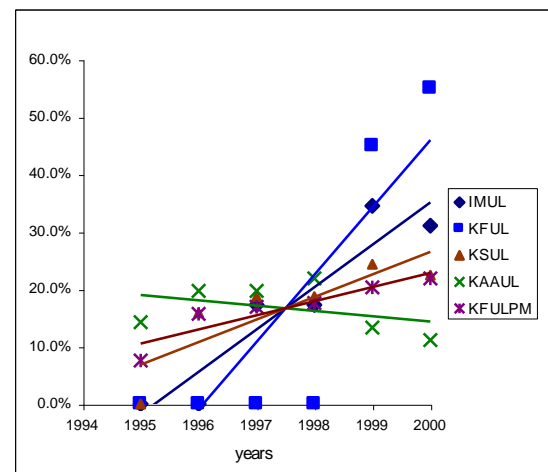Figure 2: Electronic journals collection in SALs between 1995-2000.

Figure 1 shows the percentages of printed journals collection titles in the study sample for all years. Figure 2 shows the percentage of electronic journals collection titles in each SALs for all years. OMAUL was excluded from this figure because there is no any information obtained from it.

As is illustrated in table 1 and 2 and in the above figures, the IMUL started to subscribe to electronic journals in 1997 with 17.2% within university, printed journals slightly increased between 1999 and 2000 from 16.7% to 19.1%. At the same time electronic journals rapidly increased from 1998 till 1999 (17.2%-34.5%) and slightly decreased in the year 2000 which counted (31.0%). KSUL shows that both electronic and printed journal collections went through many changes between 1995 and 2000. The number of printed journal titles was increased in 1997 until 2000 which counted (15.8%-19.2%). Electronic journals were established in 1996 with 15.9% and started to increase rapidly from 1997 until 1999 (18.7%-24.3%), then decreased in the year 2000 which counted 22.4%. KAAUL shows that print journal collections had a very slight increase from 1995 to 2000 (15.9-17.40) while electronic journals collections rapidly increased between 1995 and 1998 (14.2%-21.9%). But it decreased between 1999 and 2000 (13.3%-11.2%). OMAUL printed journals subscription increased between 1995 and 1997 (18.3-%23.3%), while it started to decline between 1998 and 2000 (18.1%-7.1%). OMAUL did not give any indication of electronic journals subscription other than availability. KFUPML shows that the printed journals subscription slightly increased between 1995 and 1996 (17.7%-19.2%), while it deceased between 1997 and 2000 (17.0%-14.2%). KFUL shows that the printed journals subscription decreased from 1995 to 1996 (18.9%-17.3%), and increased between 1997 and 1998 (17.7%-19.8%) and then decreased again between 1999 and 2000 to13.2%. It also illustrated that electronic journals had started in KFUL in 1999 and it had a slight increase from 1999-2000 (45.0%-55.0%).

Table 1 and 2 show that the percentages of printed journal collections for all SALs increased slightly from 1995 to 1996 with 16.9% to 17.4% and decreased slightly from that time until 2000 which computed 15.7%, which means that SALs started to cancel their printed journals gradually since 1997. The highest percentage of printed journal collections in all SALs was observed in KSUL which computed 43.1% of total, followed by KFUL with 29.4%, OMAUL with 11.8%, KFUL with 7.3%, KAAUL with 5.6% and the last is IMUL with 2.8% of total. From figure 1, one can see that three of SALs are increasing in their printed journals acquisitions; these are KAAUL, IMUL, and KSUL. The most increasing one is KSUL which counted 19.2% in the year 2000. While the printed journals acquisitions were decreasing in KFUPML, KFUL, and OMAUL, the most decreasing one is OMAUL which counted 7.1% in the year 2000. Tables 1 and 2 show also that the percentages of electronic journal collections increased rabidly between 1995 and 2000 from 8.1% to 21.1%. The highest percentage was observed in KFUPML, which computed 92.0% of total, followed by KAAUL with 7.8%, while the percentage of both KSUL and KFUL have the least electronic journal collection, which computed 1% and 0% of total. Figure 2 shows that all SALs are increasing in their electronic journals acquisitions during that period of time while the only decreasing one is KAAUL. The most increasing one is KFUL which counted 55%, and the lowest increasing one is KFUPML which counted 21.9%.

Table 1: Printed journals collection in SALs between 1995-2000.

University		Years						Total
		1995	1996	1997	1998	1999	2000	
IMUL	Count	130	130	130	130	135	155	810
	% within university	16.0%	16.0%	16.0%	16.0%	16.7%	19.1%	100.0%
	% within years	2.7%	2.6%	2.6%	2.7%	3.0%	3.4%	2.8%
KSUL	Count	1946	1919	1947	1996	2170	2367	12345
	% within university	15.8%	15.5%	15.8%	16.2%	17.6%	19.2%	100.0%
	% within years	40.3%	38.6%	39.6%	41.2%	47.7%	52.5%	43.1%
KAAUL	Count	253	262	262	266	273	278	1594
	% within university	15.9%	16.4%	16.4%	16.7%	17.1%	17.4%	100.0%
	% within years	5.2%	5.3%	5.3%	5.5%	6.0%	6.2%	5.6%
OMAUL	Count	617	679	785	610	432	240	3363
	% within university	18.3%	20.2%	23.3%	18.1%	12.8%	7.1%	100.0%
	% within years	12.8%	13.7%	15.9%	12.6%	9.5%	5.3%	11.8%
KFUPML	Count	1490	1615	1428	1423	1262	1191	8409
	% within university	17.7%	19.2%	17.0%	16.9%	15.0%	14.2%	100.0%
	% within years	30.8%	32.5%	29.0%	29.4%	27.7%	26.4%	29.4%
KFUL	Count	397	363	370	414	276	276	2096
	% within university	18.9%	17.3%	17.7%	19.8%	13.2%	13.2%	100.0%
	% within years	8.2%	7.3%	7.5%	8.6%	6.1%	6.1%	7.3%
Total	Count	4833	4968	4922	4839	4548	4507	28617
	% within university	16.9%	17.4%	17.2%	16.9%	15.9%	15.7%	100.0%
	% within years	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	16.9%	17.4%	17.2%	16.9%	15.9%	15.7%	100.0%

Table 2 is considering electronic journals titles in bibliographic and full-text databases, which are available in online (11%), CD-ROM networks (82%), and via Internet format (7%).

From table 3 (see appendix A page 19), it appears that most electronic journals at all SALs are in Applied Science & Technology discipline with 61% percent followed by Social Science with 39%, but it is very low in General works with 0.05% & Humanities with 0.02%. It also appears that most of electronic journals at all SALs are in CD-ROMs networks with 82% followed by online databases with 11% but it is very low in global academic networks with 0.01% while the use of the free electronic journals on the Internet was 7%.

Table 2: Electronic journals collection in SALs between 1995-2000.

University		Years						Total
		1995	1996	1997	1998	1999	2000	
IMUL	Count	*	*	5	5	10	9	29
	% within university	*	*	17.2%	17.2%	34.5%	31.0%	100.0%
	% within years	*	*	.0%	.0%	.0%	.0%	.0%
KSUL	Count	*	17	20	20	26	24	107
	% within university	*	15.9%	18.7%	18.7%	24.3%	22.4%	100.0%
	% within years	*	.1%	.1%	.1%	.1%	.1%	.1%
KAAUL	Count	1316	1821	1823	2026	1233	1032	9251
	% within university	14.2%	19.7%	19.7%	21.9%	13.3%	11.2%	100.0%
	% within years	13.8%	9.6%	9.0%	9.6%	5.3%	4.1%	7.8%
KFUPML	Count	8220	17040	18395	19125	22090	23798	108668
	% within university	7.6%	15.7%	16.9%	17.6%	20.3%	21.9%	100.0%
	% within years	86.2%	90.3%	90.9%	90.3%	94.5%	95.7%	92.0%
KFUL	Count	*	*	*	*	9	11	20
	% within university	*	*	*	*	45.0%	55.0%	100.0%
	% within years	*	*	*	*	.0%	.0%	.0%
Total	Count	9536	18878	20243	21176	23368	24874	118075
	% within university	8.1%	16.0%	17.1%	17.9%	19.8%	21.1%	100.0%
	% within years	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	8.1%	16.0%	17.1%	17.9%	19.8%	21.1%	100.0%

* Not established the service yet.

<mark>Result</mark>

1. Printed journals collections started to decrease slightly in all SALs between 1997 and 2000 (17.2%-15.7%) which means that SALs started to cancel their printed journals gradually since 1997. This declining due to the increase in electronic journal collections and to the budget cut that started to appear in SALs at that period of time.

2. Electronic journals collections increased rapidly in all SALs between 1995 and 2000 (8.1%-21.1%). This increasing was the most important movement for SALs what showed their desire to move towards digitized their services as one important issue in academic libraries in the developed world.

3. Most of the electronic journals coverage on Applied Science and Technology with (61%) and this will be through CD-ROM networks with (82%). This different coverage due to some of SALs are specialized in pure and applied science and technology such as KFUPML.

4. The highest increase in electronic journals was in the year 2000 (21.1%) which is the last year observed in this study and it was rational that it should has the highest increase in e-journal collections since it was increasing rapidly between 1995 and 2000. The most increasing one is KFUL which counted 55% where it started their e-journal collections at 1999 with 45% directly.

5. The highest increase in printed journals was in the year 1996 (17.4%) that was the last year before budget cut and before starting to increase SAL e-

journals acquisitions. The most increasing one is KSUL which counted 19.2% in the year 2000 while this university library considered from the first established one in SALs and covered different disciplines.

2. **The growth of printed journals and electronic journals in all SALs**

Figure 3 and table 4 (page 19) show the growth of printed journals titles and electronic journals titles in all universities during the years. It appears that electronic journals collections increased rapidly in all SALs between 1995 and 2000, while printed journals collections started to decrease slightly in all SALs between 1997 and 2000. The increase in electronic journals collection percentage is (8.1%‑21.1%) greater than the decreasing percentage of printed journals collection (16.9%‑15.7%).

Figure 3: Electronic journal titles and printed journals titles in SALs during (1995‑2000)
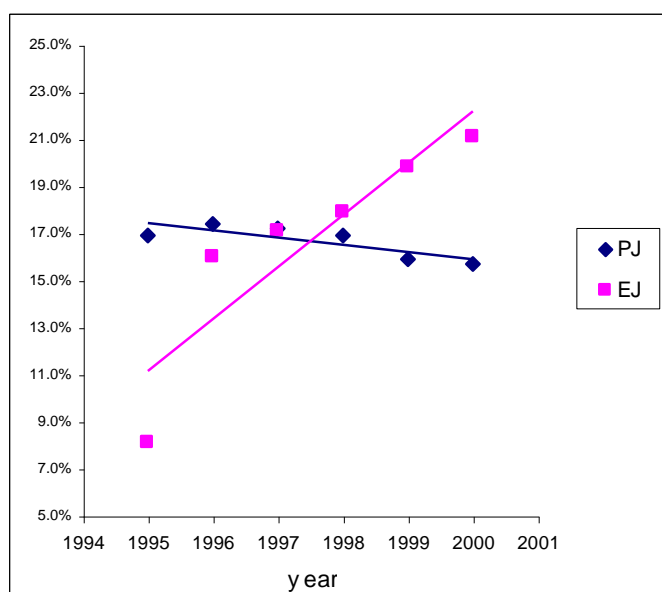
3. **The size of periodicals collection titles in SAL from 1995 to 2000**

As is illustrated in table 5 (see page 19) that the size of SALs printed journals in Arabic titles observed 4473 (3%) of total Arabic titles from 1995 to 2000, the highest percentage was in KSUL which counted 39.2% within type of journal, followed by KAAUL with 35.2%, then IMUL with 13.4%, while KFUPML and KFUL have counted 8.5% and 3.7% respectively. The print journals in foreign languages observed 24144 titles (16.5%) of total the highest percentage was in KSUL which counted 43.9% within type of journal, followed by KFUPML with 33.3%, then OMAUL has counted 13.9%, lastly KFUL, KAAUL, and IMUL counted with 8.0 %, 0.1% and, 0.9% respectively. The bibliographic databases of electronic journal provisions observed 103141 titles (70.3%%). IMUL, KSUL and KFUL have started from one to three years later from 1995. The highest percentage was in KFUPML, which counted 99.7% within type of journal, followed by KAAUL and KSUL with very small percentages for each, which counted 1% only. The full-text electronic journals observed 146692 titles (10.2%)of total, the highest percentage observed in KAAUL which counted 60.9% within type of journal, followed by KFUPML with 38.9% within type of journal.

Result

1. The percentage of Arabic printed journal collections observed (3%) of total in all universities from 1995-2000 while the foreign languages observed (16.5%) of total, which indicates that SALs periodicals collections acquisitions is more in foreign than Arabic language. This result might be influenced by the acquisition in English Language in KSUL and KFUPML due to their teaching requirement in that language. While statistically proved that the highest percentages of foreign printed journal

collections were in KSUL with 43.9%, followed by KFUPML with 33.3% respectively.

2. The highest percentage in Arabic titles was in KSUL with 39.2% followed by KAAUL with 35.2% where these two universities require the Arabic language in the most of the faculties.

3. The percentage of bibliographic databases electronic journal collections observed (70.3%) of total in all universities from 1995-2000, this due to the highest percentage in bibliographic databases was in KFUPML, which counted 99.7%. While the Full-Text databases electronic journals observed (10.2 %) of total, which indicates that SALs electronic journal collections acquisitions is more in bibliographic than full-text. This result is due to the first start for electronic resources in the format of bibliographic databases in SALs since 1995, while the full-text started only in the last two years in the same time of period.

4. The highest percentage of Full-Text databases electronic journal collections was in KAAUL with 60.9% followed by KFUPML with 38.9%. There were many users studies in KAAUL, which resulted that, the rareness of availability of the articles one of the important difficulties that is an important aspects in user's satisfaction. The Deans of KAAUL planned to fulfill the users information needs from full-text e-journals in the last two years of the same period of time.

4. Journals acquisition budget between 1995-2000 (in $)

Table 7 (page 21) shows that the highest acquisition budget for electronic journals was in the year 2000 with 26.8%. This increasing percentage was jump rabidly from year 1995 to 2000 from 5.10% to 26.80%. While the highest acquisition budget which appeared in table 6 (page 20) for printed journals was in the year in the year 1998 with 18.10%. The printed journal acquisition budget started with 15.30% in 1995 and reach 18.0% in 2000.

Figure 4: The growth of printed and electronic journals acquisition budget for all SALs.
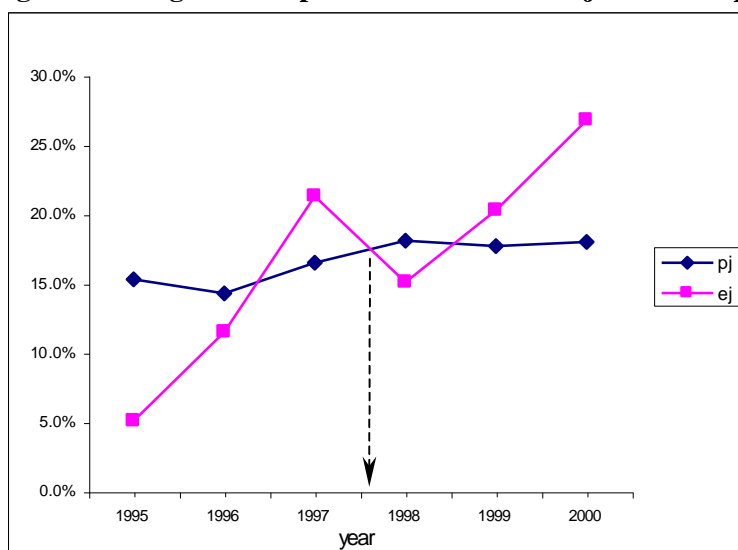
Figure 4 shows printed and electronic journals acquisition budget percentages in SAL for all universities for each year. One can see that there is a budget cut starting before 1997. The budget cut observed declining between 1995 and 1996 in printed journals from (15.3 %-14.3), and then between 1998 and 1999 from (18.1%-17.7) (see table 6/page 19). While the budget cut for electronic journals was started in 1998 when it dropped after 1997 from (21.3%-15.1%) (see table 7/page 21). Table 8 shows that the highest acquisition budget for periodical collections were in the year 2000 with (3,263,435$) which means that SALs increase their acquisition budget from (13.8%-19.3%) during the same period. The highest increase in printed journals acquisition budget was in the year 1998 (2,617,449$) (see table 6), and the highest increase of electronic journals acquisition budget was in the year 2000 (656,684$) (see table 7).

1. The highest acquisition budget was in the year 2000 with (3,263,435$). This indicates that there is an increasing percentage from year 1995 to 2000 from 13.8% to 19.3%.
2. The printed journals acquisition budget increased slightly from 1995-2000 from (15.3%- 18.0%). This result explains and insures that printed journals collections started to decrease slightly in all SALs between 1997 and 2000.
3. The electronic journals acquisition budget increased rapidly from 1995-2000 from (5.1%-26.8%). This result explains and insures that electronic journals collections increased rapidly in all SALs between 1995 and 2000.
4. The highest increase in printed journals acquisition budget was in the year 1998 (2,617,449$) where this result explains that SALs started to cancel their printed journals after 1998 when there was a budget cut.
5. The highest increase of electronic journals acquisition budget was in the year 2000 (656,684$), which explains that the highest increase in electronic journals was in the year 2000.
6. Budget cuts for printed journals were in 1996 with 14.3% and year 1999 with 17.7%. While the budget cut for electronic journals was in 1998 with 15.1%.

Tables 9 (page 21) figure 5 show that the highest percentage for printed journals acquisition budget was in KSUL with 53.60 % followed by KFUPML with 39.30 %, then each of KAAUL and KFUL counted 0.9% and 4.40 % respectively. The least one was IMUL which counted 1.80%. Electronic journals acquisition budget observed the highest percentage in KFUPML with 31.30%, followed by KSUL and KAAUL respectively by 29.70% and 24.30%. The lowest percentages were IMUL and KFUL which counted 12% and 2.7% respectively.

1. The printed journals acquisition budget is increasing in all SALs except in IMUL from 1999 to 2000 with (21.1%-15.8%), KAAUL from 1998 to 1999 with (15.6%-12.9%) and KFUPML from 1998 to 1999 with (18.5%- 15.5%). Either because of the printed journals acquisitions were decreasing as in KFUPML or electronic journals collections rapidly increased between 1995 and 1998 as the situation in IMUL and KAAUL.
2. The electronic journals acquisition budget is increasing in all SALs except in KAAUL from 1998 to 2000 with (20.1%-13.4%). This result could be due to electronic journals collections which rapidly increased between 1995 and 1998 (14.2%-21.9%).

Figure 5: Electronic and printed journals acquisition budget in all SALs for each university
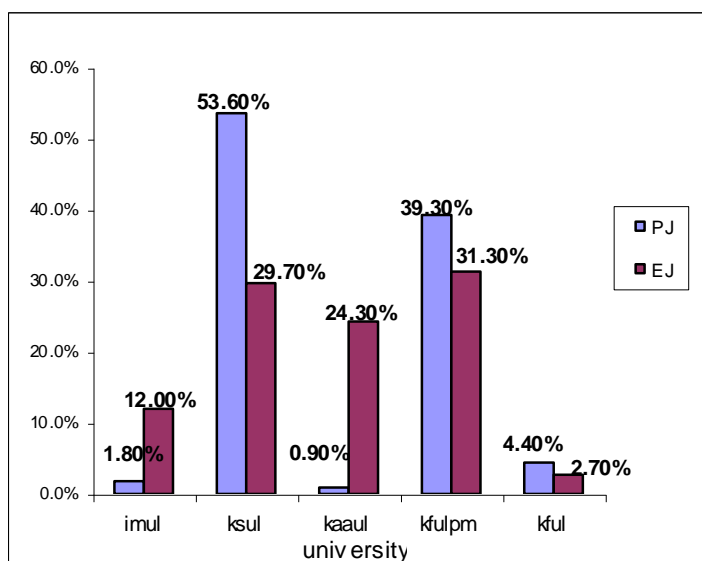
1.The highest increase in printed journals acquisition budget is in KSUL (53.6%) which explains that the most increasing printed journal collections is in KSUL which counted 19.2% in the year 2000, while the lowest is in KAAUL (.9%). This means that KAAUL is the most university library which electronic journals affected their printed journals and might do lots of cancellation to their printed titles.

2.The highest increase in electronic journals acquisition budget is in KFUPML (31.3%) followed by KSUL (29.7%%) and KAAUL with (24.3%), while the lowest is in KFUL (2.7%), which started their electronic journals only in 1999. The result of increasing electronic journals acquisition budget in KFUPML due to its more specialized in technical and applied sciences disciplinary, which needs updating their serial collection greatly and also explains that the highest percentage in bibliographic databases was in KFUPML, which counted 99.7%.

Summary and conclusions:

This survey reveals two aspects of electronic journals emergence in SAL between 1995 and 2000. One aspect is the types and numbers of electronic journals and printed journals. The second is the acquisition budgets for both. The most important results indicate a steady increase in the number of electronic journals titles while printed journals decrease. The conclusion should help SALs managers to see, and then review the main differences in size, coverage, and budgeting between printed journals and electronic journals. This should help in evaluating their selection process and decision-making and give statistical reports that help in managing periodicals collection. The result of this study should make SALs managers to rethink about some important aspects such as: aggregating journals from many publishers to integrate full-text into library systems, exploring cooperation and consortial development efforts, providing Arabic and English language electronic journal publishing systems, networking through resource sharing and co-operative collection development, providing a full integrated collection in both print and electronic formats via OPAC, redirecting existing funds to adjust staffing and resources requirements, addressing selection criteria of scholarly journals and evaluating procedures in a written policy, comparing the use of printed journals to electronic journals, studying the impact factors of electronic journals on users, staff members, facilities, and equipment, evaluating the extent to which libraries achieve goals, objectives, and examining efficiency/cost effectiveness when subscripting to electronic journals.

The study results and conclusions can be summarized as follows:

1. The growth of periodicals collections:

Printed journals collections started to decrease slightly in all SALs between 1997 and 2000 (17.2%-15.7%) which means that SALs started to cancel their printed journals gradually since 1997. This declining due to the increase in electronic journal collections and to the budget cut that started to appear in SALs at that period of time. While electronic journals collections increased rapidly in all SALs between 1995 and 2000 (8.1%-21.1%). This increasing was the most important movement for SALs what showed their desire to move towards digitized their services as one important issue in academic libraries in the developed world. Most of the electronic journals coverage on Applied Science and Technology with (61%) and this will be through CD-ROM networks with (82%). This different coverage due to some of SALs are specialized in pure and applied science and technology such as KFUPML.

The highest increase in electronic journals was in the year 2000 (21.1%) which is the last year observed in this study and it was rational that it should has the highest increase in e-journal collections since it was increasing rapidly between 1995 and 2000. The most increasing one is KFUL which counted 55% where it started their e-journal collections at 1999 with 45% directly. While the highest increase in printed journals was in the year 1996 (17.4%) that was the last year before budget cut and before starting to increase SAL e-journals acquisitions. The most increasing one is KSUL which counted 19.2% in the year 2000 while this university library considered from the first established one in SALs and covered different disciplines.

From the literature review it appeared that most of the users' suggestions concentrated on their desire to make the libraries increase their subscriptions to CD databases whether for full text or bibliographical data. But from a librarian point of view, the limitation of cooperative and cooperation activities: it appears that there is no organized resource sharing system among Saudi academic libraries, although opportunities are presented, and regular ILLN is established among SALs, it will lead to cooperation and coordination. SALs still not applying any cooperative collection development for electronic journals such as consortia. Also there is no appearing for journal aggregation services for publishers in SALs, which provide an integrated access to a range of electronic journals such as Blackwell electronic journal navigator. This kind of cooperative collection development for electronic journals can help and lead SALs managers to a rational increase in e-journals collections with redirecting acquisition funds and costs and without forcing them to cancel their printed journals titles.

2. The size of periodicals collections:

The percentage of Arabic printed journal collections observed (3%) of total in all universities from 1995-2000 while the foreign languages observed (16.5%) of total, which indicates that SALs periodicals collections acquisitions is more in foreign than Arabic language. This result might be influenced by the acquisition in English Language in KSUL and KFUPML due to their teaching requirements in that language. While statistically proved that the highest percentages of foreign printed journal collections were in KSUL with 43.9%, followed by KFUPML with 33.3% respectively. The highest percentage in Arabic titles was in KSUL with 39.2% followed by KAAUL with 35.2% where these two universities require the Arabic language in the most of the faculties. The percentage of bibliographic databases electronic journal collections observed (70.3%) of total in all universities from 1995-2000, this due to the highest percentage in bibliographic databases was in KFUPML, which counted 99.7%. While the Full-Text databases electronic journals observed (10.2 %) of total, which indicates that SALs electronic journal collections acquisitions is more in bibliographic than full-text. This result is due to the first start for electronic resources in the format of bibliographic databases in SALs since 1995, while the full-text started only in the last two years in the same time of period. The highest percentage of Full-Text databases electronic journal collections was in KAAUL with 60.9% followed by KFUPML with 38.9%. There were many users studies in KAAUL, which resulted that, the rareness of availability of the articles one of the important difficulties that is an important aspects in user's satisfaction. The Deans of KAAUL planned to fulfill the users information needs from full-text e-journals in the last two years of the same period of time.

This conclusion is agreed with KAAUL and KSUL annual reviews aspects, which mentioned the fact of the lack of library staff member numbers year after year, while the number of library users and the number of acquisitions and services are increasing at the same time. One should mention, that there is a great need to increase the number of professionals in academic library and concentrate to increase the specialized quality in library, information, and computers applications training programme with the ability to handle English language and computing aspects.

3. The acquisition budget of periodicals collections:

The highest acquisition budget was in the year 2000 with (3,263,435$). This indicates that there is an increasing percentage from year 1995 to 2000 from 13.8% to 19.3%. The printed journals acquisition budget increased slightly from 1995-2000 from (15.3%- 18.0%). This result explains and insures that printed journals collections started to decrease slightly in all SALs between 1997 and 2000. The electronic journals acquisition budget increased rapidly from 1995-2000 from (5.1%-26.8%). This result explains and insures that electronic journals collections increased rapidly in all SALs between 1995 and 2000.The highest increase in printed journals acquisition budget was in the year 1998 (2,617,449$) where this result explains that SALs started to cancel their printed journals after 1998 when there was a budget cut. The highest increase of electronic journals acquisition budget was in the year 2000 (656,684$), which explains that the highest increase in electronic journals was in the year 2000. Budget cuts for printed journals were in 1996 with 14.3% and year 1999 with 17.7%. While the budget cut for electronic journals was in 1998 with 15.1%. The printed journals acquisition budget is increasing in all SALs except in IMUL from 1999 to 2000 with (21.1%- 15.8%), KAAUL from 1998 to 1999 with (15.6%- 12.9%) and KFUPML from 1998 to 1999 with (18.5%- 15.5%). Either because of the printed journals acquisitions were decreasing as in KFUPML or electronic journals collections rapidly increased between 1995 and 1998 as the situation in IMUL and KAAUL. The electronic journals acquisition budget is increasing in all SALs except in KAAUL from 1998 to 2000 with (20.1%-13.4%). This result could be due to electronic journals collections which rapidly increased between 1995 and 1998 (14.2%- 21.9%) in KAAUL. The highest increase in printed journals acquisition budget is in KSUL (53.6%) which explains that the most increasing printed journal collections is in KSUL which counted 19.2% in the year 2000, while the lowest is in KAAUL (.9%). This means that KAAUL is the most university library which electronic journals affected their printed journals and might do lots of cancellation to their printed titles. The highest increase in electronic journals acquisition budget is in KFUPML (31.3%) followed by KSUL (29.7%%) and KAAUL with (24.3%), while the lowest is in KFUL (2.7%), which started their electronic journals only in 1999. The result of increasing electronic journals acquisition budget in KFUPML due to its more specialized in technical and applied sciences disciplinary, which needs updating their serial collection greatly and also explains that the highest percentage in bibliographic databases was in KFUPML, which counted 99.7%.

This conclusion is agreed with KAAUL and KSUL annual reviews aspects which mentioned the fact of the great lack in financial resources in the last couple of years caused the weakness in the acquisition collections from both quality and quantity aspects. One important reason caused this situation is the lack of annual budget existence which is suitable, and should be awarded from all library managers. Thus makes it very hard for the library to direct their resources towards the best channels. The best solution for SALs is to re evaluate and review the estimation of library budget allocation that match the continues increase in users numbers from academic libraries and also match the varity of different subjects for teaching and research needs.

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Appendix A: Statistics on the adoption of electronic and printed journals in SALs.

Table 3: Electronic journal provisions in different disciplines (percentage %)

		University					
		IMUL	KSUL	KAAUL	KFUPML	KFUL	Total%
Disciplines	General works	0.013	0.00328	0.032842	0	0	0.0493
	Humanities	0	0.00328	0.01642	0	0	0.0197
	Social sciences	0.0066	0.0066	25.47867	13.074321	0	38.566
	Applied science & technology	0	0.0197	1.70449	59.473218	0.1478	61.345
Provisions	On line	0	0.013	0	10.8928	0.1231	11.0296
	CD-ROM	0.0027	0.013	22.689	59.2689	0	81.9739
	Networked	0.0109	0	0	0	0	0.0109

Table 4: The growth of printed journals and electronic journals in all SALs during the years

		Years					
		1995	**1996**	**1997**	**1998**	**1999**	**2000**
Journals	Printed	16.9%	17.4%	17.2%	16.9%	15.9%	15.7%
	Electronic	8.1%	16.0%	17.1%	17.9%	19.8%	21.1%

Table 5: **The size of periodicals collection titles in SAL from 1995 to 2000**

University		Type of journals				Total
		Arabic	Foreign	Bibliographic	Full-text	
IMUL	Count	600	210	25	4	839
	% within university	71.5%	25.0%	3.0%	.5%	100.0%
	% within type of journal	13.4%	.9%	.0%	.0%	.6%
	% of Total	.4%	.1%	.0%	.0%	.6%
KSUL	Count	1752	10593	99	8	12452
	% within university	14.1%	85.1%	.8%	.1%	100.0%
	% within type of journal	39.2%	43.9%	.1%	.1%	8.5%
	% of Total	1.2%	7.2%	.1%	.0%	8.5%
KAAUL	Count	1574	20	151	9100	10845
	% within university	14.5%	.2%	1.4%	83.9%	100.0%

	% within type of journal	35.2%	.1%	.1%	60.9%	7.4%
	% of Total	1.1%	.0%	.1%	6.2%	7.4%
OMAUL	Count	0	3363	0	0	3363
	% within university	0	100.0%	0	0	100.0%
	% within type of journal	0	13.9%	0	0	2.3%
	% of Total	0	2.3%	0	0	2.3%
KFUPML	Count	381	8028	102855	5813	117077
	% within university	.3%	6.9%	87.9%	5.0%	100.0%
	% within type of journal	8.5%	33.3%	99.7%	38.9%	79.8%
	% of Total	.3%	5.5%	70.1%	4.0%	79.8%
KFUL	Count	166	1930	11	9	2116
	% within university	7.8%	91.2%	.5%	.4%	100.0%
	% within type of journal	3.7%	8.0%	.0%	.1%	1.4%
	% of Total	.1%	1.3%	.0%	.0%	1.4%
Total	Count	4473	24144	103141	14934	146692
	% within university	3.0%	16.5%	70.3%	10.2%	100.0%
	% within type of journal	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	3.0%	16.5%	70.3%	10.2%	100.0%

Table 6:Printed journal acquisition budget during the years

University		YEAR						Total
		1995	1996	1997	1998	1999	2000	
Imul	Count	26667	26667	53333	53333	53333	40000	253333
	% within UNI	10.5%	10.5%	21.1%	21.1%	21.1%	15.8%	100.0%
	% within YEAR	1.2%	1.3%	2.2%	2.0%	2.1%	1.5%	1.8%
Ksul	Count	1235742	931400	1182002	1356451	1503233	1536645	7745473
	% within UNI	16.0%	12.0%	15.3%	17.5%	19.4%	19.8%	100.0%
	% within YEAR	55.9%	44.9%	49.5%	51.8%	58.6%	58.9%	53.6%
Kaaul	Count	29632	26762	20225	20999	17279	19439	134336
	% within UNI	22.1%	19.9%	15.1%	15.6%	12.9%	14.5%	100.0%
	% within YEAR	1.3%	1.3%	.8%	.8%	.7%	.7%	.9%
Kfupml	Count	840000	1008000	1000000	1053333	882667	904000	5688000
	% within UNI	14.8%	17.7%	17.6%	18.5%	15.5%	15.9%	100.0%
	% within YEAR	38.0%	48.6%	41.9%	40.2%	34.4%	34.7%	39.3%
Kful	Count	80000	80000	133333	133333	106667	106667	640000
	% within UNI	12.5%	12.5%	20.8%	20.8%	16.7%	16.7%	100.0%
	% within YEAR	3.6%	3.9%	5.6%	5.1%	4.2%	4.1%	4.4%
Total	Count	2212041	2072829	2388893	2617449	2563179	2606751	14461142
	% within UNI	15.3%	14.3%	16.5%	18.1%	17.7%	18.0%	100.0%
	% within YEAR	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 7: Electronic journal acquisition budget during the years

University		YEAR						Total
		1995	1996	1997	1998	1999	2000	
Imul	Count	*	*	66667	66667	66667	93333	293334
	% within UNI	*	*	22.7%	22.7%	22.7%	31.8%	100.0%
	% within YEAR	*	*	12.8%	18.0%	13.4%	14.2%	12.0%
Ksul	Count	*	85333	186667	31200	193811	232684	729695
	% within UNI	*	11.7%	25.6%	4.3%	26.6%	31.9%	100.0%
	% within YEAR	*	30.2%	35.7%	8.4%	39.0%	35.4%	29.7%
Kaaul	Count	50667	133333	128000	120000	84533	80000	596533
	% within UNI	8.5%	22.4%	21.5%	20.1%	14.2%	13.4%	100.0%
	% within YEAR	40.4%	47.2%	24.5%	32.4%	17.0%	12.2%	24.3%
Kfupml	Count	74667	64000	141333	152000	125333	210667	768000
	% within UNI	9.7%	8.3%	18.4%	19.8%	16.3%	27.4%	100.0%
	% within YEAR	59.6%	22.6%	27.0%	41.1%	25.2%	32.1%	31.3%
Kful	Count	*	*	*	*	26667	40000	66667
	% within UNI	*	*	*	*	40.0%	60.0%	100.0%
	% within YEAR	*	*	*	*	5.4%	6.1%	2.7%
Total	Count	125334	282666	522667	369867	497011	656684	2454229
	% within UNI	5.1%	11.5%	21.3%	15.1%	20.3%	26.8%	100.0%
	% within YEAR	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	5.1%	11.5%	21.3%	15.1%	20.3%	26.8%	100.0%

* Not established the service yet.

Table 8: SALs Journal acquisition budgets in ($) between 1995-2000

JOURNAL		YEAR						Total
		1995	1996	1997	1998	1999	2000	
PJs	Count	2212040	2072829	2388893	2617450	2563178	2606751	14461141
	% within journal	15.3%	14.3%	16.5%	18.1%	17.7%	18.0%	100.0%
	% within YEAR	94.6%	88.0%	82.0%	87.6%	83.8%	79.9%	85.5%
EJs	Count	125333	282667	522667	369867	497011	656684	2454229
	% within journal	5.1%	11.5%	21.3%	15.1%	20.3%	26.8%	100.0%
	% within YEAR	5.4%	12.0%	18.0%	12.4%	16.2%	20.1%	14.5%
Total	Count	2337373	2355496	2911560	2987317	3060189	3263435	16915370
	% within journal	13.8%	13.9%	17.2%	17.7%	18.1%	19.3%	100.0%
	% within YEAR	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	13.8%	13.9%	17.2%	17.7%	18.1%	19.3%	100.0%

Table 9: Journal acquisition budgets in $ in all SALs during the years

JOURNAL		UNI					Total
		Imul	Ksul	Kaaul	Kfupml	Kful	
PJs	Count	253333	7745473	134335	5688000	640000	14461141
	% within journal	1.8%	53.6%	.9%	39.3%	4.4%	100.0%
	% within UNI	46.3%	91.4%	18.4%	88.1%	90.6%	85.5%
EJs	Count	293333	729695	596533	768000	66667	2454228
	% within journal	12.0%	29.7%	24.3%	31.3%	2.7%	100.0%
	% within UNI	53.7%	8.6%	81.6%	11.9%	9.4%	14.5%
Total	Count	546666	8475168	730868	6456000	706667	16915369
	% within journal	3.2%	50.1%	4.3%	38.2%	4.2%	100.0%
	% within UNI	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	3.2%	50.1%	4.3%	38.2%	4.2%	100.0%