Self Archiving in Atılım University

Korhan Levent Ertürk

Department of Information Systems Engineering, Atılım University, Turkey. klerturk@atilim.edu.tr

Gökhan Şengül

Department of Computer Engineering, Atılım University, Turkey. gsengul@atilim.edu.tr

Abstract: *Self archiving is defined as storing the scientific research outputs in researchers' own web pages/sites, organizational web sites or institutional repositories. In this study the self archiving activities of academicians of Atılım University are investigated. For the purpose of the study the web pages of the university, personal web pages of the academicians and open repository of the university are explored. We found the details of 2176 academic activities of the instructors in web pages. More than half of these activities (1147 - 53%) consist of refereed journal papers. Almost a quarter of the instructors saved their research outputs in the university's open repository. Yet, those instructors have not published their works in their personal web pages or institutional web pages. Only 4% of the works are published in personal/organizational web pages. According to the results obtained, the usage of institutional repository is the common self archiving method in the Atılım University. On the other hand, the personal/organizational web pages should be as a point of attraction in self archiving. While discussing the efficient usage of the institutional repository, we suggest that the social networks as a meeting point should include links to personal/institutional web pages containing academicians' papers.*

Keywords: *Scholarly communication, open access, institutional repositories, citation indexes, open science*

Introduction

According to the Budapest Open Access Initiative declared in 2001, self archiving is defined as storing the scientific research outputs (especially published in refereed journals) of the researchers in self web sites/pages, organizational web sites of the researchers or institutional repositories (IRs). Besides, the definition also requires the open access and free download. This definition is also known as *green road*. The main aim of self archiving is to provide the visibility of the papers (original or different forms) published in refereed journals on the personal web pages/sites or IRs. There are 26 IRs in Turkey, containing about 55,000 documents (mostly dissertations). Only 22% of the documents in these repositories are research papers (Ertürk & Şengül, 2011).

Earlier Studies

Self archiving is a mechanism for academicians to make their research papers readily available so that other researchers could get access to, read and cite them (Giesecke, 2011; Creaser, et al., 2010; Bailey, et al., 2006; Swan & Brown, 2005; Harnad & Brody, 2004), thereby increasing the visibility of the research performed in the organizations and, at the same time, protecting the intellectual output of the organization (Kurtz, 2010; Xia, 2008; Bailey, 2008; Karasözen et al., 2006; Dilek Kayaoğlu, 2006; Tonta & Ertürk, 2006; Polat, 2006; Swan & Brown, 2005; Antelman, 2004).

Swan and Brown (2004) found that most of the researchers prefer to store their papers (68%) and their conference proceedings (51%) in IRs. In a different study carried out in University of California in 2006, Greenhouse (2007) found that more than half of the researchers want to store their papers (82%), books (81%), and conference proceedings (55%) in IRs. McDowell (2007) found that there are 300 IRs in USA. While there are a few thousands of documents in some of these IRs, figures reach 45,000 in some of them. However, only 13% of documents in IRs are refereed journal papers. Vernooy, et al. (2009) found out that more than half of the universities in Europe have IRs. The detailed information about the number of repositories and their content can be obtained from international open access guides.

In another study, the storing preferences of 684 reseachers from 17 different universities are investigated (Kim, 2010). It was found out that 480 of the participants (70%) stored their research outputs in open access environments. In this study, five different methods for self archiving which are used by academic staff are determined: personal web pages/sites, research group or laboratory web sites, departmental web sites, related disciplinary repository of the work, and finally the IRs. It is observed that the most preferred method for self archiving is the personal web sites

with 67%. The frequencies of the other methods are 52% for research group web sites, 42% for departmental web sites, 28% for disciplinary repositories, and 23% for IRs. Some of the IRs lost their functionality as time passed (Kim 2010; Mackie, 2004).

In a study carried out at Hacettepe University, Ertürk and Küçük (2010) found out that more than half of the researchers are aware of open access, and 86% plan to store their research outputs in IRs in their original form. In a different study by Ertürk (2010), new management methods and a few strategies about construction of IRs were suggested. Karasözen, Zan and Atılgan (2010) investigated open access studies in Turkey and found that there are only a limited number of IRs in Turkey and they were all set up by librarians. Ertürk and Şengül (2011) indicated that the year 2011 is a milestone for IRs in Turkey in that the number of documents stored in IRs have doubled in 2011.

Materials and Methods

In this study, self archiving studies of Atılım University is investigated and evaluated. Following research questions are addressed: Do the instructors effectively use the self archiving methods? Do the instructors practise self archiving as an academical behavior? What is the capability of the instructors about self archiving their research studies? Are the research papers, especially published in journals listed in citation indexes, also stored in self archiving platforms?

In order to collect data, the institutional web site of Atılım University, personal web pages of instructors and the Institutional Repository of Atılım University were searched between 13th July and 6th August of 2011. All the data obtained was stored in a database. Data groups were organized and the relationship between these groups was analyzed, and finally the results were interpreted.

Findings and Discussion

Atılım University was founded by the Atılım Foundation on 15 July 1997. The university is composed of 5 faculties with 31 departments, 2 institutes, and 15 research and application centers. As of July 2011, there are 5121 undergraduate and graduate students and 377 (almost half 185 have their PhD degrees) academic staff. The distribution of academic titles by faculties are given in Table 1.

Table 1. Distribution of instructors by their faculties and titles (N=185)

Faculties / Title	Prof.		Assoc. Prof.		Asst. Prof.		Lecturer Dr.		Total	
	N	%	N	%	N	%	N	%	N	%
Faculty of Arts & Sciences	7	13.5	4	19.0	13	16.3	14	43.8	38	20.5
Faculty of Management	7	13.5	3	14.3	16	20.0	10	31.3	36	19.5
Faculty of Engineering	24	46.2	12	57.1	35	43.8	5	15.6	76	41.1
Faculty of Law	9	17.3	1	4.8	5	6.3	1	3.1	16	8.6
Faculty of Art, Design & Architecture	5	9.6	1	4.8	11	13.8	2	6.3	19	10.3
Total	52	100.0	21	100.0	80	100.0	32	100.0	185	100.0

Forty-one percent of instructors are in the Faculty of Engineering while 9% are members of the Faculty of Law. Nearly one fourth of the academic staff (24%) are in three departments, namely, Faculty of Law (which has only one department), Civil Engineering Department and the Department of Mathematics.

Atılım University has 550 papers published in journals listed in Web of Science (WoS) since 2000 (Atılım University, 2011). We found a total of 2176 records of publications in web pages/sites belonging to the 185 faculty members given in Table 2. More than half of these publications (1147 - 53%) are refereed journal papers (744 indexed and 403 other). Besides, there are 787 conference proceedings (352 indexed and 435 other), 150 books and 92 book chapters. The distribution of publications with respect to academic titles is given in Table 2. When the total number of publications is considered, 55% of all publications, 44% of internationally indexed journal articles and 36% of papers that appeared in journals indexed by WoS were authored by professors. In this context, when the papers indexed in WoS are considered, 33.8% of the authors are professors, 10.8% of the authors are associate professors, 52% of the authors are assistant professors and 3.4% of the authors are lecturers with PhD degrees. Meanwhile, 52% of the authors in the internationally indexed conference papers are assistant professors.

Table 2. Distribution of publications by academic titles

Publication / Title	Prof.		Assoc. Prof.		Asst. Prof.		Lecturer Dr.		Total	
	N	%	N	%	N	%	N	%	N	%
Indexed Papers	328	27.4	159	61.6	219	34.7	38	42.2	744	34.2
Indexed Papers (WoS)	*119*	*33.8*	*38*	*10.8*	*183*	*52.0*	*12*	*3.4*	*352*	*100.0*
Other Papers	305	25.5	26	10.1	56	8.9	16	17.8	403	18.5
Book	111	9.3	7	2.7	31	4.9	1	1.1	150	6.9
Book Chapter	57	4.8	4	1.6	22	3.5	9	10.0	92	4.2
Indexed Proceedings	119	9.9	38	14.7	183	29.0	12	13.3	352	16.2
Other Proceedings	276	23.1	24	9.3	121	19.1	14	15.6	435	20.0
Total	1196	100.0	258	100.0	632	100.0	90	100.0	2176	100.0

The distribution of publications with respect to faculties is given in Table 3. More than half (51%) of the total publications, 54% of published papers, and 70% of papers that appeared in journals covered by international indexes were written by the academic staff in the Faculty of Engineering. The Departments of Mechanical Engineering, Mathematics and Chemical Engineering are the most productive ones. Although the Faculty of Law has the lowest number of faculty members, they publish almost one fourth of the total publications. Academicians of Faculty of Fine Arts, Design and Architecture publish only 1% of the total papers.

Table 3. Distribution of publications by faculties

Publication / Faculty	Arts & Sciences		Management		Engineering		Law		Art, Design & Architecture		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Papers	150	86.2	121	35.2	617	56.0	253	47.8	6	22.2	1147	52.7
Indexed Papers	*121*	*33,8*	*52*	*15,1*	*520*	*47.2*	*49*	*9.3*	*2*	*7.4*	*744*	*34.2*
Book	6	9.3	39	11.3	15	1.4	88	16.6	2	7.4	150	6.9
Book Chapter	3	4.8	33	9.6	16	1.5	31	5.9	9	33.3	92	4.2
Proceedings	15	9.9	151	43.9	454	41.2	157	29.7	10	37.0	787	36.2
Total	174	100.0	344	100.0	1102	100.0	529	100.0	27	100.0	2176	100.0

There are three different methods that can be used for self archiving by academic staff in Atılım University. These methods can be given as follows: Web sites of the departments, personal web sites/pages of the faculty members and IR of the university.

Academic staff can access their pages with a secure method (password protected), and update their information with the help of a form interface/page. These pages allow users to enter publication information or to give hyperlink to the publication. However, there is no facility to upload a full publication. Academic staff have an indirect method for self archiving in their web sites by providing a hyperlink address for the publication stored in another place. Some 74% of the academic staff have publication information (full name of the publication, publication address, DOI number if available, authors, volume, page numbers, etc) on their web pages. Yet, only 30% provide hyperlinks to their publications. The majority of the hyperlinks refer to the original publishers' web sites. This cannot be considered as self archiving.

Table 4. Self archiving status in departmental web sites and personal web pages/sites

Staff / Faculty	Arts & Sciences		Management		Engineering		Law		Art, Design & Architecture		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Publication Info	27	71.1	26	72.2	59	77.6	14	87.5	11	57.9	137	74.1
Publication Hyperlink	13	34.2	12	33.2	23	30.3	6	37.5	2	10.5	56	30.3
Self Archiving	2	5.3	1	2.8	4	5.3	-	-	-	-	7	16.8
Self Web Page	8	21.1	4	11.1	19	25.0	-	-	-	-	31	3.8
Total	38	100.0	36	100.0	76	100.0	16	100.0	19	100.0	185	100.0

We found that 31 academicians (17% of the academic staff) developed specialized personal (self) web pages, and 7 of them (4% of academic staff) stored their publications in their web pages as a self archiving. Self archiving status with respect to faculties is given in Table 41. The numbers given in this study show that self archiving is not generally accepted as a common behaviour in Atılım University.

IR activities began in 2009 in Atılım University. The preferred software for it is MITOS, developed by a native company and conformant to international open access standards. The IR of Atılım University is indexed in Directory of Open Access Repositories –OpenDOAR and Registry of Open Access Repositories – ROAR. We found 477 documents available in Atılım University's IR. Some 35% of these documents are research papers. The detailed information about the content of the repository is given in Table 4. Documents were also stored in the repository of the university library. Uploading documents to a repository can be directly performed by the academic staff, or can be done with a central authority (library). Besides, we also found that the university does not have any enforcement about the self archiving. It must be also noted that there are only three different document types available in the repository, and the number of conference procedings is very low.

Table 5. Atılım University IR content types

Faculty / Publication	Papers		Proceedings		Thesis		Total	
	N	%	N	%	N	%	N	%
Faculty of Arts & Sciences	16	9.5	3	37.5	-	-	19	4.0
Faculty of Management	49	29.0	-	-	-	-	49	10.3
Faculty of Engineering	19	11.2	5	62.5	-	-	24	5.0
Faculty of Law	12	7.1	-	-	-	-	12	2.5
Faculty of Art, Design & Architecture	2	1.2	-	-	-	-	2	0.4
Unknown	71	42.0	-	-	300	100.0	371	77.8
Total	169	100.0	8	100.0	300	100.0	477	100.0

Figure 1 gives the relationship between the academic staff and the repository. A quarter (24%) of the instructors stored their papers in the repository. The academic staff in the Faculty of Engineering provided 36% of the papers available in the IR. Moreover, 42% of the academic staff in the Faculty of Management stored their papers in the repository. Meanwhile, the distribution of academic staff whose documents are available in the IRs are: 27% professors, 25% assistant professors, 24% lecturers with PhD degrees, and 19% associate professors.
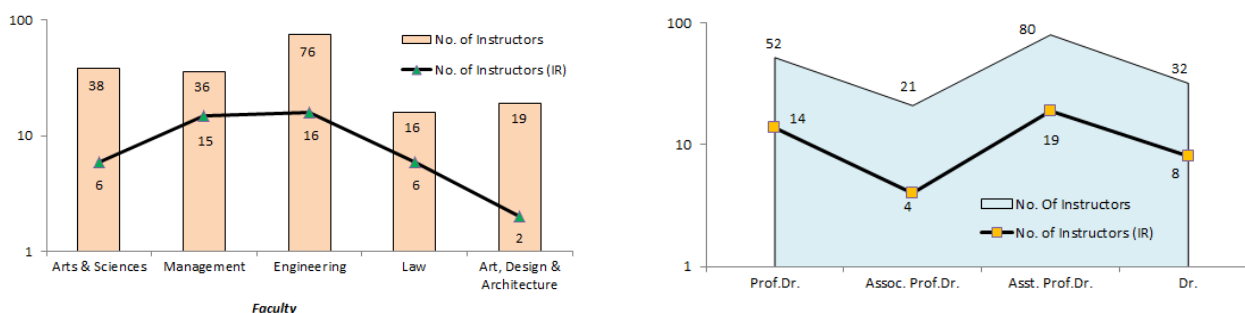

Figure 1. Instructors in Atılım University IR

There are only 169 refereed papers stored in the IR of Atılım University. The academic staff in the university have 1147 refereed journal papers (as listed in the web pages of the departments) and only 15% of papers were uploaded to the repository. But this is not realistic. Total number of articles belonging to the academic staff having articles on the IR mentioned above is 388 (33%). When only those academicians are considered, we see that 25% of the papers were uploaded to the repository. Besides, 6% of the papers are indexed in international indexes. Figure 2 also gives the relationship between the academic staff and the repository. It is also found that about half of the documents (%40) were uploaded to the repository by Faculty of Management.
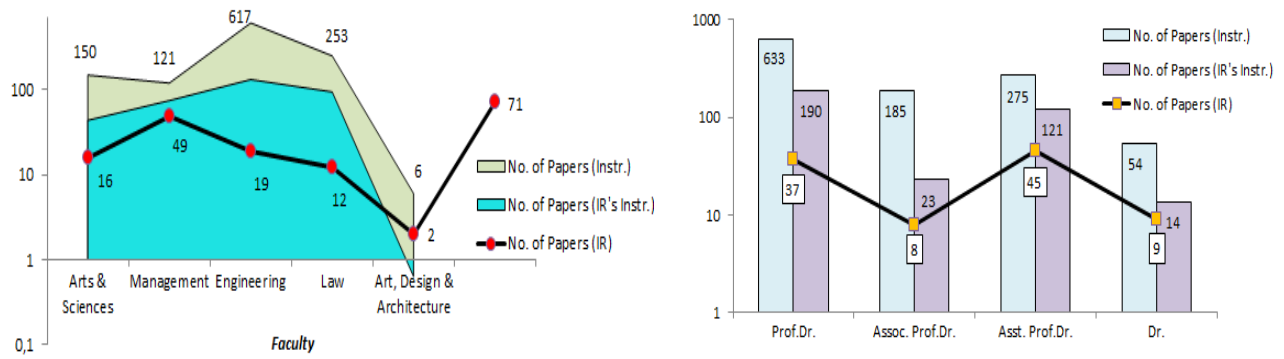
Figure 2. Papers in Atılım University IR

We also found that 73% of the documents uploaded to the IR are in Turkish. All the remaining documents are in English (majority of these documents are theses). Meanwhile, these documents are stored in their original form as PDF files. Since January 2011, half the documents in the repository were displayed more than 300 times, and 80% of the documents were downloaded between 50 and 300 times. Documents of the Faculty of Management were displayed and downloaded most.

Conclusions and Suggestions

This study shows that self archiving is not generally accepted as a common academic staff behaviour in Atılım University. Although IR of the university provides a better alternative for self archiving than the personal and/or departmental web sites, it still needs improvements and new construction mechanisms. Documents were stored in the repository of the university library. University does not have any mandatory policy for self archiving. The following suggestions by Ertürk (2010) may help to increase the usage of the repository:

- The legislations and regulations related to IRs should be established and carried out by the authorized bodies of the university with the help of The Council of Higher Education. It is also necessary to establish obligatory archiving policies for the papers, project documents, conference proceedings and other research outputs developed by the academic staff.
- In order to provide technical personnel and infrastructure for the IRs; a *Center of IR* should be established. The technological infrastructure must be set up and kept up-to-date to maintain the documents archived in the IR.
- It is also necessary to provide measures that take the documents archived in the IRs into account in academic evaluations and project evaluations. These measures can be established in cooperation with The Council of Higher Education.
- The electronic journals published by the universities should be archived in the IR. It is also necessary for these journals to be indexed in library catalogues.

Besides, it is necessary to develop scenarios for uploading the content, and this may increase the self archiving activities. However, we suggest linking the personal web pages and social networks, so that it can help the self archiving activities in the university. Social networks should enable users to share their scientific research outputs.

References

Antelman, K. (2004). Do open-access articles have a greater research impact? *College and Research Libraries News,* 65(5), 372-383. Retrieved November 3, 2011 from http://ala.org/ala/acrl/acrlpubs/crljournal/crl2004/crlseptember/antelman.pdf

Atılım University (2011). Official Web Site. Retrieved August 12, 2011 from http://www.atilim.edu.tr

Bailey, C.W. et al. (2006). *IR: SPEC Kit 292 IR*. Association of Research Libraries. Retrieved November 3, 2011 from http://works.bepress.com/ ir_research/2.

Bailey, J. (2008). *IR, Tout de Suite, 2008*. Digital Scholarship. Retrieved September 21, 2011 from http://eprints.rclis.org/handle/10760/13682

Creaser C. et al. (2010). Authors' awareness and attitudes toward open access repositories, *New Review of Academic Librarianship*, 16(1), 145-161.

Dilek Kayaoğlu, H. (2006). Açık erişim kavramı ve gelişmekte olan bir ülke olarak Türkiye için anlamı. *Türk Kütüphaneciliği*, 20(1), 29-60.

Ertürk, K.L. (2010). Ulusal açık erişim sistem tasarımı: Türkiye modeli. *2nd International Symposium on Information Management in a Changing World, September 22-24, 2010, Ankara, Turkey. Proceedings* (254-263). Ankara: Hacettepe Üniversitesi Bilgi ve Belge Yönetimi Bölümü, 2010.

Ertürk, K.L. & Küçük, M.E. (2010). Bilimsel bilginin görünürlüğü: Hacettepe Üniversitesi'nde açık erişim farkındalığı. *Türk Kütüphaneciliği*, 24(1), 63-93.

Ertürk, K.L. & Şengül, G. (2011). Bilimsel iletişimde yeşil ve altın yollarda yakınsama ve Türkiye'deki yansımaları. *Bilgi Dünyası*, 12(2), 239-262.

Giesecke, J. (2011). *IR: Keys to Success, Journal of Library Administration*, 51:529–542, DOI: 10.1080/01930826.2011.589340.

Greenhouse, A. (2007). Faculty attitudes and behaviors regarding scholarly communication: Survey findings from the University of California. Retrieved September 21, 2011 from http://www.osc.universityofcalifornia.edu/responses/osc.html.

Harnad, S. & Brody, T. (2004). Comparing the impact of open access (OA) vs. non-OA articles in the same journals? *D-Lib Magazine,* 10(6), 372-383. Retrieved August 11, 2011 from http://dlib.org/dlib/june04/harnad/ 06harnad.html.

Karasözen, B. et al. (2006). *Kurumsal arşiv yaratma.* 6. ANKOS Annual Meeting, 2 June 2006, Çanakkale.

Karasözen, B., Zan, B.U. & Atılgan, D. (2010). Türkiye'de açık erişim ve bazı ülkelerle karşılaştırma. *Türk Kütüphaneciliği*, 24(2), 235-257.

Kim J. (2010), Faculty self-archiving: Motivations and barriers. *Journal of the Amerıcan Socıety for Informatıon Science and Technology*, 61(9), 1909–1922.

Kurtz, M. (2010). Dublin Core, DSpace, and a brief analysis of three university repositories. *Information Technology and Libraries*, 29(1), 40–46.

Mackie, M. (2004). Filling IR: Practical strategies from the DAEDALUS project. *Ariadne*, (39) 1-6.

McDowell, C. S. (2007). Evaluating institutional repository deployment in American academe since early 2005: Repositories by the numbers, Part 2. *D-Lib Magazine*, 13(9/10).

Polat, C. (2006). Bilimsel bilgiye açık erişim ve kurumsal açık erişim arşivleri. *Journal of Social Sciences*, 6(37), 53-80.

Swan, A. & Brown, S. (2004). Authors and open access publishing. *Learned Publishing*, 17(3), 219-224.

Swan, A. & Brown, S. (2005) Open access self-archiving: Journal authors survey report. *Technical report, Joint Information Systems Committee (JISC), UK Key Perspectives Ltd.,* 2004. Retrieved September 22, 2011 from http://www.jisc.ac.uk/uploaded_documents/ACF655.pdf

Tonta, Y. & Ertürk, K.L. (2006). *Açık erişim ve kurumsal arşivler: Hacettepe Açık Arşiv Uygulaması.* (presentation). Akademik Bilişim '06. 9-11 February 2006, Denizli.

Vernooy, G. et al. (2009) Three perspectives on the evolving infrastructure of institutional research repositories in Europe. *Ariadne (59).*

Xia, J. (2008). A comparison of subject and IR in self-archiving practices. *Journal of Academic Librarianship*, 34(6), 489–495.