

Volume 3, Issue 1 (2015)

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Yang, Z. Y., & Li, Y. (2015). University Faculty Awareness and Attitudes towards Open Access Publishing and the Institutional Repository: A Case Study. *Journal of Librarianship and Scholarly Communication*, 3(1), eP1210. http://dx.doi.org/10.7710/2162-3309.1210



University Faculty Awareness and Attitudes towards Open Access Publishing and the Institutional Repository: A Case Study

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INTRODUCTION The purpose of this study was to understand TAMU faculty awareness of open access (OA) publishing; assess their attitudes towards, and willingness to, contribute to an institutional repository (IR); and investigate their perceptions of newer OA trends and resources, including Open Educational Resources (OER) and DMPTool. The survey also served as an outreach tool to inform and educate TAMU faculty about OA publishing, the IR, and the Libraries' OA services. METHODS The 34-question survey was conducted between Nov. 6-Dec 15, 2014 using Qualtrics, a web-based survey tool. Responses were anonymous, and participants were prevented from answering the survey more than once. Two hundred ninety-five faculty responded to the survey, resulting in a response rate of 11 percent. **RESULTS** Survey results suggest that tenured faculty are more engaged and interested in OA publishing topics in general, and tenure-track faculty are more willing to adopt new initiative such as Open Textbooks. Overall, the responding TAMU faculty are willing to consider publishing in OA publications, and almost half of them believe OA journal publications are acceptable for consideration of tenure and promotion in their departments. Despite their positive attitudes towards OA publishing, they are not so positive towards OA mandates. The survey also revealed there is a low awareness level of the TAMU IR, as well as of newer OA trends and resources. **CONCLUSION** The majority of responding TAMU faculty are aware of OA journals in their fields, and indicated their willingness to publish in an OA publication. Being unaware of the IR deposit process stood out as the greatest barrier that accounts for the low IR participation rate at TAMU. In line with previous studies, copyright concerns, as well as the perception of IR contents as being of lower quality, are the second most significant barriers. Workshops or seminars on copyright, data management, and the IR are badly needed. Several participants appreciated this survey because it provided many web links to the resources mentioned for them to explore further, and as a result they learned a lot from the survey. Despite our best efforts to make faculty aware of the abundance of resources made available by the Libraries, it seems that our audience continues to remain unaware of some of our services and resources. This only reinforces the need for continuous communication—after all, there is no such thing as too many reminders.

Received: 01/12/2015 Accepted: 03/23/2015

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IMPLICATIONS FOR PRACTICE

- 1. Many faculty are willing to publish in OA publications; however, faculty are not convinced that OA publications will be more highly cited and have greater impact, and there is resistance among faculty to OA mandates.
- 2. Faculty recommend that information be provided on a regular basis to create awaenress of available resources and services; surveys can be used to achieve this, not simply gather data.
- 3. This case study and survey questions may assist other librarians who are developing a scholarly communication outreach plan.

INTRODUCTION

"Open access" (OA) and "institutional repositories" (IRs) have been buzz words in library literature for years. In 2001, the Budapest Open Access Initiative identified two primary means for achieving OA goals. They are "Gold" OA or "author pays," achieved by publishing in a peer-reviewed, scholarly OA journal in which articles are freely available online, and "Green" OA or "self-archiving," achieved by publishing in any peer-reviewed journal and then depositing a peer-reviewed version or preprint of the article in an OA repository. Peter Suber succinctly defined OA as journal articles or books that are "digital, online, free of charge, and free of most copyright and licensing restrictions" (Suber, 2004). OA repositories can include articles that were published in gold OA journals or closed-access journals. Clifford Lynch described an IR as:

...[A] set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. It is most essentially an organizational commitment to the stewardship of these digital materials, including long-term preservation where appropriate, as well as organization and access or distribution. (Lynch, 2003)

Kumar, Singh, and Karisiddappa (2011) note that "Institutional repositories should become an integral part of scholarly communication" (p. 201). For an IR to be successful and serve its full potential, it is imperative that its constituents be aware of its existence, understand its value, and be willing to contribute their scholarship.

TAMU Libraries established its IR in 2004. In the fall of 2013, TAMU Libraries and TAMU Office of the Vice President for Research (VPR) also jointly established the TAMU OA Fund. Together, they committed \$100,000 for two years to the fund. In accordance with Stuart Shieber's proposal that federal government funding agencies and universities form a joint compact to fund a Gold OA model that would require publication only in "pure" OA journals, not including hybrid journals (Shieber, 2009), the TAMU OA Fund

is only applicable to Gold OA. Journals with a hybrid open-access model or delayed open-access model are not eligible. TAMU Libraries branded the TAMU OA Fund as the Open Access to Knowledge (OAK) Fund. At the same time that the OAKFund was established, TAMU's IR was rebranded as OAKTrust. Also in early 2014, TAMU Libraries started its effort to support Open Educational Resources (OER) by applying for grant funds from the Southeastern Conference (SEC) Academic Collaboration Award program.

With the evolving OA environment as a backdrop, we conducted a survey to discover the awareness level and attitudes of our own TAMU faculty regarding OA publishing, IRs, and newer OA trends and tools such as OER and DMPTool. The most unique aspect of this survey is that we created informative survey questions to educate faculty, while at the same time assessing their awareness. This strategic decision was made based upon the findings of similar previous studies conducted by other research institutions which revealed a lack of faculty familiarity with OA and IR concepts. In our survey, we included the definitions of the concepts and terms used in the questions, such as Green OA, Gold OA, Open Access mandate, and links to referenced sites and tools, such as SHERPA ROMEO, SPARC's author addendum, ORCID, PeerJ, and DMPTool. This design enabled our survey to work not only as an assessment tool, but also as educational outreach to the TAMU faculty community.

LITERATURE REVIEW

A scan of the literature reveals that several surveys from across the globe on faculty attitudes and perceptions towards OA and IRs have been conducted since early 2000. They all share similar findings, regardless of whether the survey was administered to faculty in a large research institution or a small liberal arts college; or what disciplines the faculty were affiliated in, from business to engineering, to science, to the humanities and social sciences.

The Office of Scholarly Communication at University of California and the California Digital Library eScholarship program released their survey findings in August 2007. The survey found that 82 percent of respondents were "not aware of" or "aware of but don't know much about" IRs. Seventy-nine percent of respondents were "not aware of" or "aware of but don't know much about" digital repositories (DRs), while eight percent had submitted to DRs. Sixty-four percent were unaware of or knew little about OA journals (University of California..., 2007).

In 2011, Kim investigated the perceptions of faculty members from 17 Carnegie doctorategranting universities in the US regarding IRs. He reports that about 60 percent were unaware of their university IRs and explored factors that encourage faculty participation in IRs as well

as factors that hinder faculty contributions to IRs. Of three statistically significant barriers that might account for low participation rate, copyright concerns stood out as the greatest concern, though time and effort were also seen as obstacles. Kim concludes by underlining the importance of strengthening digital preservation and copyright management in IRs to increase faculty participation (Kim, 2011).

Singeh, Abrizah, and Karim (2013) share a Malaysian case examining conditions that inhibit authors from self-archiving in open access repositories. According to their study, the major barrier was fear of plagiarism. They also noted that a second salient problem was efficiency—researchers felt the process was too slow and time consuming. Hence, "faculty output was not finding its way into the university's IR in large numbers" (Abrizah, 2009, p. 32).

Van Westrienen and Lynch's (2005) European survey notes low faculty participation in IRs due to confusion and uncertainty about intellectual property issues, as well as the perception of open access content being of low quality. Hahn and Wyatt (2014) surveyed business faculty from 125 ARL institutions and concluded that the majority of faculty were unaware of IRs in their local institutions and that many faculty were also ignorant regarding OA journals. OA journals were perceived as less prestigious and of lower quality in the business field and faculty were afraid that publishing in OA journals could affect their scholarly reputation. Many faculty also believed that contributing to the IR did not add value to their career advancement.

While Hahn and Wyatt (2014) examined business faculty, Mischo and Schlembach (2011) studied engineering faculty at the University of Illinois at Urbana-Champaign to better understand their OA practices and attitudes. The survey results show that engineering faculty published little in author-pays "Gold" journals and had few plans to do so in the future: "There was a lack of familiarity with campus IRs and a very small uptake rate for depositing research output in [IRs]" (Mischo and Schlembach, 2011, p. 432).

At a small liberal arts university, the University of Wisconsin–Eau Claire, Kochen and Wical (2013) revealed that faculty did not have a sophisticated comprehension of OA, leading to a high rate of unawareness of OA—70 percent of the respondents.

Dutta and Paul (2014) shared the results of their survey among selected science and technology faculty members of the University of Calcutta in India. They reported that the faculty members' attitudes regarding IR were generally positive. However, their awareness was less than satisfactory. They further revealed that most of the aware respondents came to discover their IR through the Internet. The copyright issue was the most influential factor with regard to unwillingness to contribute.

Lercher (2008) from Louisiana State University at Baton Rouge asked his faculty questions about their experience with IRs and DRs, their attitudes about submitting their work to repositories, and their attitudes about different ways of searching for others' work in their fields. His hypothesis was that "faculty who used IRs, DRs, or both would prefer to submit and search for valuable unpublished work in their field in a DR" (p. 408). He attempted to determine the relationship among attitudes regarding submission and searching behaviors and respondents' experience with disciplinary or institutional repositories. He believed "for a digital repository to play a role in scholarly communication those who have material to share need to submit material to it and those who search for work need to be directed to that digital repository" (p. 412). He was disappointed to report that he could not confirm his hypothesis because the correlations were weak.

A common strategy in trying to convince faculty of the value of depositing in IRs or publishing in OA journals is the promotion of the 'OA citation advantage'. Many studies have looked into whether OA publications truly have citation impact advantages. More studies favoring the OA advantage exist (Antelman, 2004; Eysenbach, 2006; Gargouri, et al., 2010; Harnad & Brody, 2004; Norris, Oppenheim, & Rowland, 2008; Perkel, 2006; Xia & Nakanishi, 2012) than those that found no advantage (Craig, Plume, McVeigh, Pringle, & Amin, 2007; Davis & Fromerth, 2007; Kurtz & Henneken, 2007; Moed, 2007).

While much effort has been devoted to studying faculty perceptions of IRs and OA publishing, the faculty response to other OA-related developments should be examined as well. For example, the Open Educational Resources (OER) movement has been going for over a decade (Atkins, Brown, & Hammond, 2007). OER, together with emerging OA-related tools and resources such as DMPTool and ORCID IDs, have become an important part of OA topics. However, there is very little literature on faculty attitudes towards them. In addition to examining faculty attitudes toward OA publishing and the IR, this study will contribute to the literature by adding findings on faculty perceptions of open textbooks, DMPTool, and ORCID IDs—newer trends and resources which were not covered in previous studies.

METHODOLOGY

The survey was approved by the TAMU IRB and conducted between November 6 and December 15, 2014. It contains 34 questions (Appendix I). We used the core questions from similar previous surveys (Abrizah, 2009; Hahn & Syatt, 2014; Singeh, Abrizah & Karim, 2013) in the design of our survey and added questions on newer OA trends and resources, as well as the core concepts' definitions and links. The survey was entered into Qualtrics, a web-based survey tool. The survey invitation (Appendix II) was sent to every

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TAMU faculty member (2,664) via the campus Bulk Email system. Participants were asked to voluntarily participate in the study by clicking on a web link included in the email message that directed them to the survey. Two follow-up reminders about the survey were sent, and the survey closed after 40 days of data collection. Responses were anonymous, and participants were prevented from answering the survey more than once. To make the process less frustrating, the survey did not force respondents to answer every single question.

RESULTS

We received 295 responses to the survey, a response rate of 11 percent; 56% of the respondents were tenured faculty. The respondents represented 10 colleges/schools, the University Libraries, and TAMU research programs. TAMU Law School and Health Science Center became affiliated with TAMU recently and their faculties' emails were not included in the TAMU Bulk Email system during the time the survey was conducted; therefore, those faculty members did not participate in the survey. Figure 1 (below) and 2 (following page) illustrate the demographic information based on the responding faculty's college affiliations, academic ranks and years of service with TAMU.

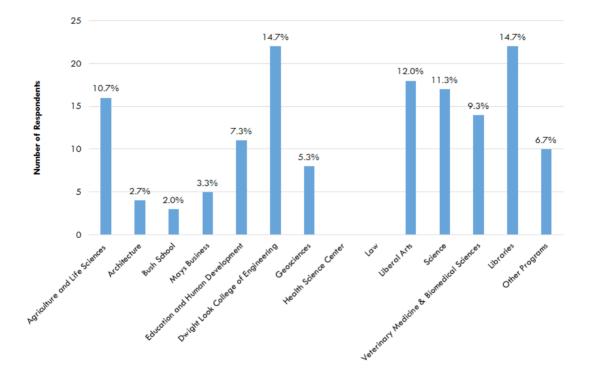


Figure 1. College Affiliations. (Note: Percentages indicate number of respondents in each category as a percent of all respondents to the question).

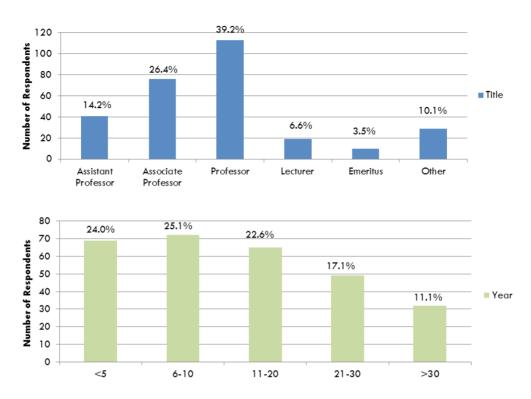


Figure 2. Academic Rank and Years of Services with TAMU. (Note: Percentages indicate number of respondents in each category as a percent of all respondents to the question).

OA Publishing

Nine questions were asked regarding faculty OA publishing. Eighty-eight percent of the respondents are aware of OA journals in their field; 40% have published their work in an OA publication. Seventy-nine percent of the respondents will consider publishing their work in OA publications in the future; 45% believe OA journal publications are acceptable for consideration of tenure and/or promotion in their departments. Forty-five percent of the respondents are aware of OAKFund, and 54% of those will apply for it. Of those who will not apply for it, 58% also will not consider publishing in OA publications.

We asked the participants to choose "Agree," "Disagree," or "Not Sure" to the six statements regarding OA mandates. Over half of the respondents believe if TAMU adopts OA mandates, their work will be more highly cited and be read by more people; over one third of the respondents believe their work will be more highly cited and will have a greater impact; less than a quarter of the respondents think it will be easy to comply with this policy; and 13%



of the respondents think the mandates will help them secure grant funding. A summary of the OA mandates statements and responses is shown in Table 1.

Question	Agree	Disagree	Not Sure
When publishing under this policy, my work will be more highly cited	52%	14%	34%
When publishing under this policy, my work will be read by more people	50%	13%	37%
When publishing under this policy, my work will reach more people outside of my field	38%	20%	42%
When publishing under this policy, my work will have a greater impact	37%	19%	44%
This policy will help me secure grant funding for my research in future	23%	17%	60%
It will be easy to comply with this policy	13%	29%	58%

Table 1. If Texas A&M adopts Open Access Mandates, would you agree or disagree with each of the following statements?

Institutional Repositories

Assessing TAMU faculty awareness towards and willingness to contribute to the TAMU IR, OAKTrust, is an important part of this survey; therefore, fourteen questions regarding it were asked. We used Qualtrics' "skip" and "display" logic to make this part of the survey applicable to each respondent. For example, if a respondent chose "No" to the question "Will you consider to deposit your works into the OAKTrust repository in the future?," the logics will help skip the irrelevant questions like "What type of works do you think you would want to deposit?" and only display the relevant ones.

Twenty-seven percent of the respondents are aware of TAMU IR OAKTrust; 7% have deposited their works into OAKTrust. For the respondents who are aware of the OAKTrust, less than half of them are aware of its major features. A summary of the OAKTrust major features and awareness is shown in Table 2.

OAKTrust Major Features	Awareness
Usage statistics report	41%
Embargo mechanism	48%
Google Scholar compatible	36%

Table 2. Faculty Awareness of OAKTrust Features

The same percentage (45%) of respondents chose either "Yes" or "Not Sure" to the question "Will you consider to deposit your works into OAKTrust in the future?" Ten percent chose "No." For the respondents who are not sure or will not consider depositing their works into OAKTrust, we asked them to tell us the reasons by choosing "Agree" or "Disagree" to 11 statements. A summary of the statements and percentage of respondents who agreed with them is shown in Table 3.

Statements	Agree
Don't know the deposit process	84%
Don't want to publish work that has not been peer-reviewed	80%
I may not be able to publish my work elsewhere later	80%
Repository would have low prestige	78%
Few people would see my work there	74%
Long term feasibility of the respository	66%
Plagiarism	47%
Others might alter my work without my permission	47%
Prefer a subject repository	46%
Others might copy my work without my permission	41%
Prefer to make my work available only on my personal website	14%

Table 3. Faculty Concerns about/Reasons for not Depositing in OAKTrust

About a quarter of the respondents who are not sure or will not consider depositing their works into OAKTrust took the time to provide their other concerns, which can be summarized as follows:

- 1. Don't know enough to form an opinion;
- 2. Depositing works into OAKTrust would not count towards merit raises, tenure and promotion, or annual evaluation.

For the respondents who *will* consider depositing their works into OAKTrust, we listed six tasks and asked them to tell us who they think should be responsible for them. A summary of their responses is shown in Figure 3 (following page).

When we asked the respondents to rank their methods of finding articles in current relevant journals, they ranked Google/Google Scholar the first, followed by library databases, print journal indexes, disciplinary repository, and the IR last. Only two respondents ranked the



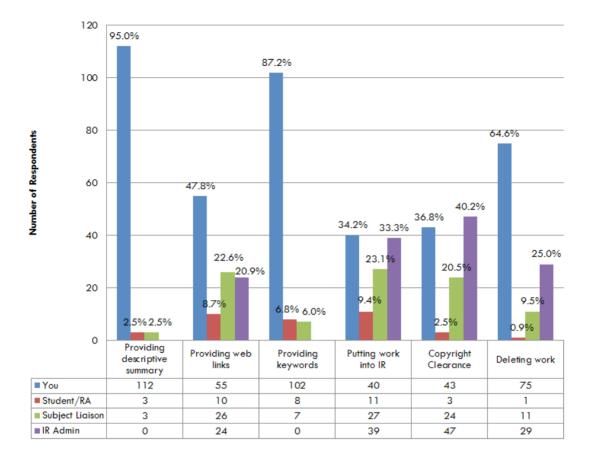


Figure 3. Perceived Responsibility to Perform IR Tasks. (Note: Percentages indicate number of respondents in each category as a percent of all respondents to the item).

IR as their first method of finding articles. Sixty-eight percent of the respondents ranked the IR as their last method of finding articles, and 50% of those respondents are unaware of OAKTrust. Among those who are aware of OAKTrust but still ranked it as their last method of finding articles, 36% of them have deposited their work into OAKTrust.

Newer OA Trends and Resources

Investigating TAMU faculty's perceptions of newer OA trends and resources including Open textbooks, DMPTool, SHERPA RoMEO, and ORCID, is another important part of the survey. The results showed that 48% of respondents were not aware of open textbooks, while 13% plan to adopt open textbooks in their teaching. This represents 17% assistant professors, 15% associate professors, and 11% full professors. An overwhelming majority

of the respondents were not aware of DMPTool or SHERPA RoMEO, and just over half were not aware of ORCID IDs. Eighty-three precent do not need, or are unsure if they will need, the TAMU librarians to help them create data management plans. A summary of their responses is shown in Figures 4a and 4b.

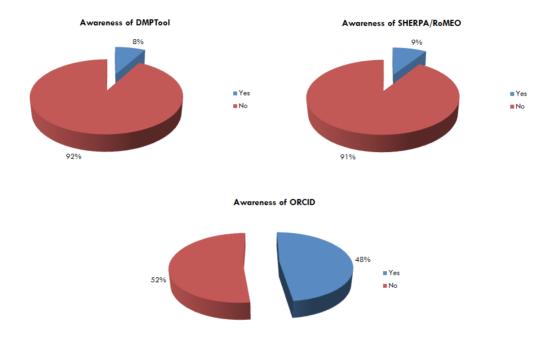


Figure 4a. Awareness of Specific Resources

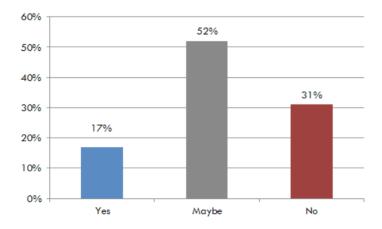


Figure 4b. Need Data Management Assistance?



Suggestions and added comments

The last question was an open comment question. About one third of the respondents took their time to offer comments and suggestions, which can be summarized as follows:

- 1. Complimentary comments to the Libraries services;
- 2. Complimentary comments to the survey;
- 3. Request for seminar, workshop, and newsletter on what the Libraries offer;
- 4. Protest of OA mandates.

DISCUSSION

It is encouraging to note that close to 90% of the TAMU respondents are aware of OA journals in their field, including 40% who have published their work in an OA journal. This percentage is about 50 points higher than the University of California's 2007 results. The main possible reason for the increase in awareness for OA publishing might be the funding agencies' years of efforts to track research outputs and encourage open access to the literature. For example, the NIH Public Access Policy is an OA mandate that was established in 2008. Peter Suber described the policy as:

[T]he first open access mandate for a major public funding agency in the United States; it is also the first one for a public funding agency anywhere in the world that was demanded by the national legislature rather than initiated and adopted independently by the agency. (Suber, 2008)

The Office of Science and Technology Policy (OSTP)'s 2013 memorandom on OA policy, Expanding Public Access to the Results of Federally Funded Research, gave OA another leap forward. Institutional policies have also helped facilitate OA, especially the policies on tenure and promotion. Seventy-nine percent of the survey respondents will consider publishing their work in OA publications and 45% believe OA journals are acceptable for consideration of tenure and promotion in their departments. This percentage (45%) is higher than we anticipated because Xia's 2010 study suggested that faculty concerns about making contributions to OA journals were connected with the requirements of the promotion and tenure process (Xia, 2010). However, in the open comment question, a few of the respondents did indicate their concerns that "Depositing works into OAKTrust would not count towards merit raises, tenure and promotion or annual evaluation," which is consistent with Xia's study. This finding might indicate that the policies in promotion and tenure vary across TAMU schools and colleges. Initially, we wanted to make comparisons

between departments/colleges; however, due to the infrequency with which participants gave their departmental affiliations (only a little over half of the respondents indicated their departmental affiliation when prompted), we decided against making insignificant comparisons between departments/colleges. In retrospect, this may have been improved with a drop-down box for the respondents to choose their affiliation, if not at the department level, at least at the college level. Among the survey respondents, a little less than half are aware of OAKFund, the TAMU OA fund which was established two years ago, and 54% will apply for it, which suggests that the OAKFund might be another factor that increased TAMU faculty awareness of OA publishing.

Even though TAMU faculty are willing to publish in OA publications, their attitudes towards OA mandates are not very positive. As we know, OA mandates have been adopted by over 240 universities such as Harvard, Princeton, MIT, and over 90 research funders worldwide like NIH or UK's Wellcome Trust. OA has many advantages as listed by OA advocate; we wanted to discover if TAMU faculty agreed with those perceived benefit statements and what faculty reaction might be if Texas A&M were to adopt OA mandates. Only a little over half of the respondents agree that if TAMU adopts OA mandates, their work will be read by more people and will reach more people outside of their fields. They are highly skeptical as to whether OA mandates will make their work more highly cited or have a greater impact. The majority of the respondents do not believe OA mandates will help them secure grant funding, and they do not believe a mandate would be easily complied with. In the last opencomment question, a few of the respondents strongly opposed this mandate, saying:

You are welcome to try to persuade me that OA will be a good thing, increasing the impact of my work, etc. I will listen and consider the evidence. But unilaterally adopting an OA mandate under which I am REQUIRED to do what you want—rather than what I want—with my own work is not acceptable.

I am strongly opposed to an OA Mandate, which is coercive, forcing scholars to sign non-exclusive copyright contracts against their will. I would hope such a mandate can be challenged on legal grounds...If Texas A&M adopts such a policy, I will resist it in any way I can to [sic] find feasible.

I will fight a university 'mandatory' OA policy. I should be able to choose the best journal for my publication in my field without having to defend that [it] does not have a friendly OA policy. I see this as part of academic freedom.

OA mandates are a terrible idea and have been shown to be ineffective.

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Compared to the faculty awareness level of OA publishing, their awareness level of IRs is very low (27%). This percentage is 13 points worse than Kim's 2011 results, but 10 points higher than the findings reported by University of California. The low level of awareness has likely caused TAMU's low IR participation rate. Even though OAKTrust has been established for over 10 years, the percentage of faculty who have deposited their works into it is very low (7%). Among the small percentage of respondents who are aware of OAKTrust, less than half of them are aware of the major features of OAKTrust, such as "OAKTrust could produce usage statistics report"; "OAKTrust provides an embargo mechanism which allows for OA deposit after a certain date"; and "OAKTrust's underlying system DSpace is a recommended system by Google Scholar and is compatible with Google Scholar search service." The lack of awareness regarding OAKTrust's major features might have contributed to the low faculty participation rate. This, plus the lack of awareness of the IR itself affected faculty searching behavior: OAKTrust was ranked last as a faculty method of finding articles, while Google/ Google Scholar was ranked first. The Faculty do not know that Google/Google Scholar and other major search engines index open IR contents regularly, and open IRs including OAKTrust are the major content resources for those search engines. The survey also revealed that over two thirds of the participants do not know the deposit process; they perceive IR contents as lower quality and less prestigious; and they have concerns about copyright issues and the long term feasibility of the repository—which can all contribute to a low IR participation rate.

Not knowing the deposit process stood out as the number one barrier, followed by copyright concerns, as well as the perception of IR contents as lower quality as the second significant barrier. This finding is slightly different from the previous studies, none of which suggested lack of knowledge of the deposit process as one of the most significant barriers that account for low IR participation rate (Abrizah, 2009; Dutta & Paul, 2014; Kim, 2011; Van Westrienen & Lynch, 2005). Concern about plagiarism was expressed by 48%, certainly not one of the top concerns of TAMU faculty, which stands in sharp contrast with the findings presented by Singeh, Abrizah, and Karim (2013), who reported that plagiarism was the major barrier for their faculty's willingness to participate in the IR. And unlike Kim's 2011 study, which suggested time and effort as obstacles for faculty to utilize IR, TAMU faculty appear to be willing to perform the repository tasks themselves. Of course, we need to undertake continuous investigations to find out if their willingness will translate into action. As shown in Figure 3, over two thirds of the respondents think they are responsible for providing descriptive summaries, keywords, and deleting work when necessary. About one third of them think the IR administrator should be responsible for putting their work into the IR and taking care of copyright clearance. The percentage of faculty who chose the subject liaison to perform such tasks is relatively low, which might indicate faculty are unsure about subject liaisons' role in the IR services.

Like Lercher (2008), we attempted to determine the relationship between faculty attitudes regarding submissions to the IR and their searching behavior. Only 2 respondents chose the IR as their first method of finding articles but neither of them has ever deposited anything into OAKTrust, and only one will consider depositing in the future. Among the respondents who ranked the IR as the last method of finding articles, a little over a quarter of them are aware of the IR, and 36% of them have deposited their work into OAKTrust. Therefore, consistent with Lercher, our findings cannot draw the conclusion that faculty who submit to IRs would prefer to search for information in IRs.

Based on previous studies (Abrizah, 2009; Hahn & Syatt, 2014; Singeh, Abrizah, & Karim, 2013), we added new questions to our survey to investigate TAMU faculty perceptions on newer OA trends and resources. A little over half of the respondents are aware of open textbooks; this percentage is about 40 points lower than their awareness of OA journals. Assistant professors seem to be a little more willing to adopt this new initiative (17%) than the other two ranks, with associate professors responding with an acceptance rate of 15 percent and full professors at 11 percent. Faculty awareness level of the DMPTool and SHERPA RoMEO is low; less than 10% of the respondents are aware of these important tools and resources. Lack of awareness of these tools and resources might contribute to why over half of the respondents are unsure whether they need the Libraries' assistance in using them. Nevertheless, when we looked closely into those who are aware of these tools, we noticed the percentage of them willing to contribute to OAKTrust is higher than that of all the respondents. For example, among the respondents who are aware of SHERPA RoMEO, 67% of them will consider depositing into OAKTrust in the future, which is about 20 points higher than the percentage of all the respondents (45%). The finding suggests that increasing faculty awareness of newer OA tools and resources might increase IR participation rates. Also, it seems a few more responding associate professors (17%) were aware of SHERPA RoMEO database than those of other faculty ranks, with only 10 percent of responding assistant professors, and eight percent of responding full professors stating their awareness.

More and more publishers and funding agencies request ORCID IDs during journal manuscript and funding application submissions. The awareness level of ORCID is relatively higher than the awareness level of DMPTool and SHERPA RoMEO; about half of the respondents are aware of ORCID, which might have been a result of the grants that the TAMU Libraries received in 2013 from the Sloan Foundation for campus ORCID integrations for early career scholars and professionals. In 2014, TAMU Libraries subscribed to an institutional membership with ORCID on behalf of the entire TAMU community, students and faculty alike, and we encouraged everyone to sign up for their ORCID ID, which is likely also be a contributing factor to our faculty's awareness on ORCID.

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We feel the most insightful part of the survey is the respondents' suggestions and comments to the two open comment questions. About one third of the respondents took their time to offer comments and suggestions.

For the question "Please state your other concerns if you do not want to contribute to OAKTrust," many noted that they don't know enough about what the benefits are of OAKTrust to form an opinion of its value. Some heard from their colleagues that the deposit process is complicated and cumbersome; such concerns deterred them from devoting their time to figure it out and give it a try. Several pointed out that no recognition would be given in their annual evaluation for contributing to OAKTrust. Comments like "Business school will never recognize such contributions, so it is waste of my time to participate" and "In science, it will be a VERY long time and a major change of mindset before such an archive could ever be treated as a standard" were provided. One commenter voiced a strong opinion by stating:

Guess what: we publish OA without using the repository, because OA journals and monographs are respected by and visible to our peers, and handled by people who understand publishing, know how to update and maintain data, and have some clue how to design an interface that is searchable. TAMU's IR doesn't meet those standards; I would not put a shopping list into it, much less work that I care about. The library's support of OA publishing via OAKTrust is a great idea. Keep that up, leave publishing to people who know how to do it, and quit trying to push the IR unless you are actually willing to do the work (spend the money, hire the staff) that is required to bring it up to par.

The last question of the survey was an invitation for the participants to share their opinions about what help or service they need the most from TAMU librarians to support their teaching and research needs. It also encouraged them to add any comments or suggestions. Several appreciated this survey because it provided many of the web-links to the resources mentioned for them to explore further, and they learned a lot from the survey. The following are just a few examples of such comments:

I found that by taking this survey, that my interest in better understanding OA issues and resources has been stimulated.

I found the links you provided in the survey are very informative, thank you!

I am amazed how much I learned (and how much I now realize I don't know) after completing this survey. I actually stopped and copied some of the questions that provided links to more information.

Faculty highly recommended that more information like this survey be given to them on a regular basis to create awareness of available resources and services. This could be done quarterly or biannually either via email, newsletter, or seminar to educate and remind them. These comments indicated the success of our strategy of using this informative survey as a mode of outreach. Specific training topics were also mentioned by faculty, such as OA publishing and repository services, copyright, data management, a seminar on how to most effectively make their research available to others, and a workshop on tools for data deposit for OA.

Some faculty expressed that they would like subject librarians to do a citation study of their publications, help establish a website where they could legally make their publications openly available to everyone, and send bi-weekly newsletters on how to use some of the databases or new tools. Others suggested that we maintain and expand digital access to journals, and better yet, provide more access to online book chapters, similar to the level of accessibility to journal articles.

Finally, faculty respondents also shared problems they perceived with OA journals:

- 1. There is something wholly inappropriate about authors paying to publish their work. This is very different from extra-page fees for going over some limit.
- 2. Too many OA journals appear to be scams rather than real-deal peer-reviewed journals, and feel more like vanity publishing than scholarly archival publishing.
- 3. Too many OA journals are very low quality factories that pull down the reputations of others. Those concerns were also raised in the aforementioned literature.

Several respondents mistakenly assumed that the survey was issued in anticipation of TAMU's adoption of an OA mandate and expressed strong protest.

From the demographic data, we can see that professors represented more than one third of the respondents (39%), followed by associate professors (26%), and assistant professors (14%) (Figure 2). The majority of the respondents are tenured faculty (83%). It could suggest that tenured faculty are more engaged and interested in OA topics. Years of working at TAMU were quite evenly split among the respondents, so it might not have much impact on their awareness and attitudes towards OA. While we realize that the response rate was low, we received fairly broad representation across disciplines and faculty type, and the results still gave an indication of TAMU faculty awareness and attitudes towards OA, IRs, and newer OA trends, such as OER.



CONCLUSION

The majority of responding TAMU faculty are aware of OA journals in their fields and indicated their willingness to publish in an OA publication. However, there is resistance among faculty to OA mandates. The survey results suggest that tenured faculty are more engaged and interested in OA publishing topics in general, and tenure-track faculty are more willing to adopt new initiatives such as open textbooks. Whether OA journal publications are acceptable for consideration of tenure and promotion in their departments varies across TAMU schools and colleges. Further research on comparing tenure and promotion policies among schools, colleges, or even departments and disciplines might be needed. Being unaware of the IR deposit process stood out as the greatest barrier that accounts for low IR participation rate in TAMU. In line with previous studies, copyright concerns, as well as the perception of IR contents as lower quality, were the second most significant barrier noted. Workshops or seminars on these topics are badly needed. It seems that if more information were provided regarding the OAKTrust repository, a majority of faculty would be interested in contributing. It also suggests that improving the usability of OAKTrust's underlying system, and simplifying the deposit process, might be important for increasing the IR participation rate.

The survey revealed that TAMU faculty are unsure about subject liaison's role in the IR services (the Libraries' role in their data management practices), which may suggest the collaboration between the IR admin and the subject liaisons, as well as that between the subject liaisons and their faculty, should be tightened, with the aim to share the commitment to scholarly communication, including IR and data management and other OA support. The OAKTrust Face-time initiative was launched in January of 2015 after the survey results were analyzed. OAKTrust Face-time is a service where the IR admin blocks out one hour of time every week to meet with the subject liaisons. During the OAKTrust Face-time, the OAKTrust admin will assist the subject liaisons or their patrons, e.g. faculty from outside of the Libraries, with IR related issues, requests or projects. The OAKTrust Face-time might be a good starting point to tighten the collaboration between the IR admin and the subject liaisons.

This survey was also designed to serve as an outreach tool for educating and informing TAMU faculty on the OA issues and available tools and services for them to become engaged with OA movement. From the respondents' comments, we determined that we achieved this goal. Another new feature of this survey was the questions related to the newer OA trends and resources including OER and DMPTool. The survey revealed the awareness level of TAMU faculty on these specific trends and resources is low. However, faculty would like to know more about them. The results also suggest that familiarity with these newer tools and resources, such as SHERPA RoMEO, might help increase OA and IR

participation. The open comments indicated the TAMU faculty would welcome trainings on the IR, copyright, and data management. They wish the Libraries could inform them of the wonderful resources, tools, and services available to them either in a regular newsletter/email format or seminar/workshop setting. Identifying what users want is the first step to ensuring success for any service that the Libraries may launch. With the findings of this survey, as well as the faculty's trust and appreciation, the TAMU Libraries will continue its efforts in supporting OA. We hope a follow-up survey in two years will reveal a different picture. We also believe this case study and survey questions can assist other librarians who are developing a scholarly communication outreach plan.

REFERENCES

Abrizah, A. (2009). The cautious faculty: Their awareness and attitudes towards institutional repositories. *Malaysian Journal of Library and Information Science*, 14(2), 17-37.

Antelman, K. (2004). Do Open-Access articles have a greater research impact? *College & Research Libraries*, 65(5), 372-382. http://dx.doi.org/10.5860/crl.65.5.372

Atkins, D. E., Brown, J. S., & Hammond, A. L. (2007). A review of the open educational resources (OER) movement: Achievements, challenges, and new opportunities. The William and Flora Hewlett Foundation, 1-84. Retrieved from http://www.hewlett.org/uploads/files/ReviewoftheOERMovement.pdf

Budapest open access initiative(2011). Budapest open access initiative in 2001. Retrieved from http://www.soros.org/openaccess

Craig, I. D., Plume, A. M., McVeigh, M. E., Pringle, J., & Amin, M. (2007). Do Open Access articles have greater citation impact? A critical review of the literature. *Journal of Informetrics*, 1(3), 239-248. http://dx.doi.org/10.1016/j.joi.2007.04.001

Davis, P. M., & Fromerth, M. J. (2007). Does the arXiv lead to higher ciations and reduced publisher downloads for mathematics articles? *Scientometrics*, 71, 203-215. http://dx.doi.org/10.1007/s11192-007-1661-8

Dutta, G. & Paul, D. (2014). Awareness on institutional repositories—related issues by faculty of university of Calcutta. *Journal of Library & Information Technology*, 34(4), 293-297. http://dx.doi.org/10.14429/djlit.34.5138

Eysenbach, G. (2006). Citation advantage of Open Access articles. *PLoS Biology*, 4(5), e157. http://dx.doi.org/10.1371/journal.pbio.0040157

Gargouri, Y., Hajjem, C., Lariviere, V., Gingras, Y., Caarr, L., & Brody, S.T. (2010). Self-selected or mandated, open access increases citation impact for higher quality research. *PLoS ONE*, *5*(10), e13636. http://dx.doi.org/10.1371/journal.pone.0013636

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Hahn, Susan E. and Wyatt, Anna (2014). Business faculty's attitudes: open access, disciplinary repositories, and institutional repositories. *Journal of Business & Finance Librarianship*, 19, 93-113. http://dx.doi.org/10.1080/08963568.2014.883875

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). Retrieved from http://www.dlib.org/dlib/june04/harnad/06harnad. htm

Kim, J. (2011). Motivations of faculty self-archiving in institutional repositories. *The Journal of Academic Librarianship*, 37(3), 246-254. http://dx.doi.org/10.1016/j.acalib.2011.02.017

Kocken, G. J. & Wical, S. H. (2013). "I've never heard of it before": Awareness of open access at a small liberal arts university. *Behavioral & Social Science Librarian*, 32, 140-154. http://dx.doi.org/10.1080/01639269.2013.817876

Kumar, S., Singh, S., & Karisiddappa, C. R. (2011). Role and challenges of digital repositories in scholarly communication. International Journal of Information Dissemination and Technology, 1(4), 197-202.

Kurtz, M. J., & Henneken, E.A. (2007). Open access does not increase citations for research articles from the astrophysical journal. arXiv. Retrieved from http://arxiv.org/abs/0709.0896v1

Lercher, A. (2008). A survey of attitudes about digital repositories among faculty at Louisiana State university at Baton Rouge. *The Journal of Academic Librarianship*, *34*(5), 408-415. http://dx.doi.org/10.1016/j.acalib.2008.06.008

Lynch, C. (2003). Institutional repositories: Essential infrastructure for scholarship in the digital age. *portal: Libraries and the Academy, 3*(2), 327-336. http://dx.doi.org/10.1353/pla.2003.0039

Moed, H. F. (2007). The effect of 'Open Access' upon citation impact: An analysis of ArXiv's condensed matter section. *Journal of the American Society for Information Science and Technology*, 58(13), 2047-2054. http://dx.doi.org/10.1002/asi.20663

Mischo, W. H. & Schlembach, M. C. (2011). Open access issues and engineering faculty attitudes and practices. *Journal of Library Administration*, *51*(5-6), 432-454. http://dx.doi.org/10.1080/01930826.2011.589349

Norris, M., Oppenheim, C., & Rowland, F. (2008). The citation advantage of Open Access articles. *Journal of the American Society for Information Science and Technology*, 59(12), 1963-1972. http://dx.doi.org/10.1002/asi.20898

Perkel, J. (2006). Open Access brings more citations. *The Scientist Magazine*. Retrieved from http://dx.doi.org/www.the-scientist.com/?articles.view/articleNo/23997/title/Open-access-brings-more-citations/

Shieber, S. M. (2009). Equity for open-access journal publishing. *PLoS Biology*, 7(8), e1000165. http://dx.doi.org/10.1371/journal.pbio.1000165

Singeh, F. W., Abrizah, A. & Karim, N. (2013). What inhibits authors to self-archive in open access repositories? A Malaysian case. *Information Development*, 29(1), 24-35. http://dx.doi.org/10.1177/0266666912450450

Suber, P. (2004). Open access overview: Focusing on open access to peer-reviewed research articles and their preprints. Retrieved from http://legacy.earlham.edu/peters/fos/overview.htm

Suber, P. (2008). An open access mandate for the National Institutes of Health. *Open Medicine*, 2(2), e39-e41.

University of California Office of Scholarly Communication and the California Digital Library eScholarship Program (2007). Faculty attitudes and behaviors regarding scholarly communication: Survey findings from the University of California. Retrieved from http://osc.universityofcalifornia.edu/2007/08/report-on-faculty-attitudes-and-behaviors-regarding-scholarly-communication/

Van Westrienen, G. & Lynch, C. A. (2005). Academic institutional repositories: Development status in 13 nations as of mid 2005. *D-Lib Magazine*, 11(9). http://dx.doi.org/10.1045/september2005-westrienen

Xia, J. (2010). A longitudinal study of scholars attitudes and behaviors toward open access journal publishing. *Journal of the American Society for Information Science and Technology*, 61(3), 615, 616-624. http://dx.doi.org/10.1002/asi.21283

Xia, J. & Nakanishi, K. (2012). Self-selection and the citation advantage of Open Access articles. *Online Information Review*, 36(1), 40-51. http://dx.doi.org/10.1108/14684521211206953



APPENDIX I

Survey Questions

Q1 Your Department:

Q2 Your Title

- Assistant Professor
- Associate Professor
- Professor
- Lecturer
- Emeritus
- Other

Q3 Your Tenure Status:

- Tenured
- Tenure track
- N/A

Q4 How long have you been working for Texas A&M:

- less than 5 years
- 6-10 years
- 11-20 years
- 21-30 years
- over 30 years

Q5 Are you aware of open access (OA) journals in your field? Open access (OA) literature is digital, on-line, free of charge, and free of most copyright and licensing restrictions.

- Yes
- No

Q6 Have you published your work in an open access publication? Open access publishing generally means making your work available in an open access journal or in a digital repository of some sort.

- Yes
- No

Q7 Will you consider publishing your work in OA publications in the future?

- Yes
- No

Q8 Are open access journal publications acceptable for consideration of tenure and/or promotion in your department?

- Yes
- Don't Know
- No

Q9 Do you plan to adopt any open textbooks in your teaching? (i.e. http://open.umn.edu/opentextbooks/; http://openstaxcollege.org/ etc.)

- Yes
- No
- Not aware of this
- N/A

Q10 Are you aware of the OAK (Open Access to Knowledge) Fund available from TAMU Libraries for you to apply? OAK Fund underwrites publication charges for scholarly journal articles, book chapters, and monographs published in open access publications. For more information please visit http://scholarlycommunication.library.tamu.edu/oak-fund

- Yes
- No

Q11 Will you apply for OAK Fund from the TAMU Libraries to publish in OA publications?

- Yes
- No
- I have other funding to cover

Q12 Are you aware that TAMU Libraries established an institutional membership with PeerJ, the award winning open access publisher? (https://peerj.com). The Libraries' OAK Fund also underwrites the cost of a basic PeerJ membership for each University author accepted for publication in the PeerJ journals. The membership lasts for a lifetime of publishing, even if the author leaves Texas A&M, and allows an author to publish one article in PeerJ per year. For more information, contact oakfund@library.tamu.edu

- Yes
- No

Q13 Institutional Repository (IR) is one of the recommended ways to achieve open access. Are you aware of TAMU Libraries' IR called OAKTrust (http://oaktrust.library.tamu.edu) available to you? OAKTrust collects, preserves, and distributes the scholarly output of the University, including scholarly articles and books, electronic theses and dissertations, conference proceedings, technical reports, and digitized library collections etc.

- Yes
- No

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Q14 Are you aware that OAKTrust could produce usage statistics report for your deposited items?

- Yes
- No

Q15 Are you aware that OAKTrust provides an embargo mechanism which allows for open access deposit after a certain date?

- Yes
- No

Q16 Are you aware that DSpace, the open source system that OAKTrust is based on, is a recommended system by Google Scholar and is compatible with Google Scholar search services?

- Yes
- No

Q17 Have you deposited any of your works into the OAKTrust repository?

- Yes
- No

Q18 Will you consider to deposit your works into the OAKTrust repository in the future?

- Yes
- No
- Not Sure

Q19 What type of works do you think you would want to deposit? (Check all that apply)

- Research report
- Preprint (research article before peer reviewed)
- Postprint (Peer-reviewed research paper)
- Conference paper
- Presentation
- Book
- Dataset
- Work-in-progress paper
- Thesis/dissertation
- Teaching materials
- Seminar paper
- Other (Please specify) ______

Q20	Which file formats	do you generall	y use and the	erefore might	want to dep	posit? (Ch	eck all
that a	pply)						

- PDF
- Word processed document (MS Word)
- Image (.gif, .jpg, .tif, etc.)
- Presentation (e.g.MS Powerpoint)
- Video
- Technical drawings
- Spreadsheet (e.g.MS Excel)
- Database (e.g. MS Access)
- Sound (.wav, .mp3, .aiff)

Q21 Who do you think should be responsible for the following tasks:

	You	Your student worker / research assistant	Your library subject liaison	Repository administrator
Providing an abstract or				
descriptive summary of content				
Providing web links to associated				
material (e.g. referenced articles,				
data sets etc.)				
Providing key words				
Putting the work into the				
repository				
Confirming intellectual property				
rights				
Deleting work				

Q22 If your answer is "No" or "Not Sure" to the previous Question (Q18), is it because:

	Agree	Disagree
I perceive that few people would see my work there		
I perceive that the repository would have low prestige		
I do not want to publish work that has not been peer-reviewed		
I would prefer to deposit it in a subject repository		
I would prefer to make my work available only on my personal website		
I am concerned that others might copy my work without my permission		
I am concerned that others might alter my work without my permission		
I am concerned about plagiarism		
I am concerned that if I deposit my work in the TAMU OAKTrust Repository I may not be able to publish it elsewhere later		
I am concerned about the long term feasibility of the repository		
I don't know the deposition process		

Q23 Please state your other concerns if you do not want to contribute your works in the TAMU OAKTrust digital repository:

Q24 Have you posted your works in any disciplinary repositories, such as arXiv, Earth Prints, OnePetro, Hprints, PubMed Central, MetRep, SSRN, etc.?

- Yes
- No

Q25 Do you self-archive?

- Yes
- No

Q26 Do you know SHERPA RoMEO (http://www.sherpa.ac.uk/romeo) provides a useful quick reference guide for you to check on open access and self-archive restriction and policies with links to publishers' websites?

- Yes
- No

Q27 Do you know it may be possible to retain your copyright by granting publishers a non-exclusive license? When you grant a non-exclusive license, you give the licensee permission to exercise the right in question, but you also reserve the right to continue exercising it yourself and to authorize others to do so. For example, a non-exclusive license may allow you to deposit your work in an Institutional Repository or allow you to continue to use it in other ways covered by the license. If there is no publisher agreement to sign, you can use sample license agreement provided by SPARC? Click here (http://www.sparc.arl.org/sites/default/files/Access-Reuse_Addendum.pdf) to view SPARC Author Addendum.

- Yes
- No

Q28 Are you aware of the DMPTool service that is available to you? The DMPTool (https://dmptool.org/user_sessions/institution) is an online tool that includes data management plan templates for many of the large funding agencies that require such plans, including NIH and NSF etc.

- Yes
- No

Q29 Do you need TAMU Librarians to help you create these data management plans, or help you assess the data management needs of your project and work with you to identify data management solutions?

- Yes
- Maybe
- No

Q30 Do you know that you can create an ORCID ID at https://orcid.org/register? (ORCID ID is a unique, persistent digital identifier that distinguishes you from every other researchers. More and more publishers and funding agencies now request ORCID IDs during journal manuscripts and funding application submissions. You can link your ORCID ID to your other identifiers, such as Scopus or ResearcherID or LinkedIn.)

- Yes
- No

Q31 If Texas A&M adopts Open Access Mandates, would you agree or disagree with each of the following statements?

An Open Access Mandate is a policy adopted by a research institution, research funder, or government which requires researchers, usually university faculty or research staff and/or research grant recipients, to make their published, peer-reviewed journal articles and conference papers open access either by self-archiving their final, peer-reviewed drafts in a freely accessible institutional repository or disciplinary repository ("Green OA"), or by publishing them in an open access journal ("Gold OA"), or both. As of December 2013, open access mandates have been

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adopted by over 240 universities such as Harvard, Princeton, MIT, and over 90 research funders worldwide such as NIH.

	Agree	Disagree	Not Sure
When publishing under this policy, my work will have a greater impact			
When publishing under this policy, my work will be more highly cited			
When publishing under this policy, my work will be read by more people			
When publishing under this policy, my work will reach more people outside of my field			
This policy will help me secure grant funding for my research in future			
It will be easy to comply with this policy			
Q32 Please rank your method of finding articles following choices to the order you prefer, most pr Print journal indexes Library databases Google/Google Scholar search Disciplinary repository		,	by moving the
Disciplinary repository Institutional repository			
Q33 Are you aware that you can use the TAMU	Libraries Ge	et it for me servic	e (http://

Q33 Are you aware that you can use the TAMU Libraries Get it for me service (http://getitforme.library.tamu.edu) to request books (delivered to your office), articles (scanned in pdf), and any other materials (which are not open access, or not available from our online databases/collections) for free from the Texas A&M University Libraries or other libraries around the world?

- Yes
- No

Q34 What help or service do you think that you need the most from TAMU librarians to support your teaching and research needs? Feel free to add any other comments or suggestion.

APPENDIX II

Email Invitation for Faculty Participation in the Survey

Howdy,

To better understand your needs of increasing visibility of your research, the University Libraries is conducting a research study entitled: "Texas A&M University Faculty's Awareness and Attitudes towards Open Access Publishing and Institutional Repositories".

Your answers to the survey questions will help us refine our service to meet your research needs. Participation in this survey is completely voluntary and anonymous with no foreseeable risk. Aside from your time, there are no costs for taking part in the study. In published reports, there will be no information included that will make it possible to identify you. Research records will be stored securely and only approved investigators will have access to the records.

Any questions concerning the survey can be directed to the principal investigator at xxx@tamu. edu (xxx-xxx-xxxx). This survey instrument has been reviewed and approved by the Human Subjects Protection Program, Institutional Review Board at Texas A&M University, study number (IRB2014-0635; approval date: 10/31/2014; Expiration date: 10/15/2015)

For questions about your rights as a research participant; or if you have questions, complaints, or concerns about the research and cannot reach the Principal Investigator or want to talk to someone other than the Investigator, you may call the Texas A&M Human Subjects Protection Program office. (979) 458-4067, irb@tamu.edu

Please take approximately 15 minutes to complete this survey, which is available online at: https://tamu.qualtrics.com/SE/?SID=SV_bD9dM8LzXg3jwZD

Thank you for your time and participation! xxx