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The Factors Significant to the Introduction of Institutional Open Access Policies: Two Case Studies of R-1 Universities

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INTRODUCTION US universities are increasingly unable to afford research journal subscriptions due to the rising prices charged by for-profit academic publishers. Open access (OA) appears to be the most backed option to disrupt the current publishing model. The purpose of this study is to understand the factors significant to the introduction of institutional OA policies at selected United States R-1 universities. **METHODS** An in-depth qualitative study, including interviews with stakeholders, was conducted on two R-1 universities with OA policies that have been implemented for at least five years. **RESULTS** The results of this study reveal that while the perceived sustainability of the scholarly communication business model was an initial driver, open dissemination of knowledge was the primary factor for the development of institutional policies. **DISCUSSION** Open dissemination of knowledge aligns with the mission of both institutions. Interviewees believe that a wider and more open dissemination of the institution's research cost could positively affect their faculty's research impact, which could then affect the institution's reputation, rankings, classifications and funding. **CONCLUSION** While the initial driver for exploring OA scholarly communication for both institutions was the perceived unsustainability of the scholarly communication model, the most important factor that led to the creation of their policies was the desire to disseminate the faculty's scholarship.

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IMPLICATIONS FOR PRACTICE

1. Open dissemination of knowledge is an important factor that aligns with the broader university community's needs, which therefore is an impactful way for librarians to advocate for open access policies.
2. The development of institutional open access policies could create good public-relations as well as reputation boost for the institution.
3. While the notion of disseminating scholarship broadly is an ideal, the practical implications for both senior administrators and faculty are still increasing the research impact to benefit both the institution's standing and the faculty's careers.

INTRODUCTION

For decades academic librarians have been discussing the unsustainability of the for-profit scholarly publishing business model (Petersen, 1990; Falk, 2004; Romero, 2008; Baveye, 2010). They have also been studying and issuing warnings of being overcharged by for-profit scholarly publishers (White, 1976; Schlimgen & Kronenfeld, 2004; Liu, 2011; Liu & Gee, 2017; Shu et al., 2018). At the same time, Elsevier, the largest for-profit scholarly journal publisher, reported 2011 “profits of £724 million on just over £2bn in revenue” (Buranyi, 2017, para. 2) for its scientific publishing division alone. Their profit margins in 2012 and 2013 were over 40%, which was higher than companies such as Apple, Google, or Amazon posted in those years, according to YCharts.com (2019).

The central argument between stakeholders, such as librarians, faculty, administrators, and research funders, is that it is necessary to change or disrupt the current for-profit academic publishing model (Schimmer, Geschuhn, & Volgers, 2015; Esposito, 2018; McDowell, 2018; Barbour, 2019). OA publishing is one of the most supported options (Open Access is the Future – Spring Nature Survey, 2018; Piwowar et al., 2018). To alleviate for-profit academic publishers' monopolistic pricing, Harvard Library, the most well-resourced academic library in the world, called on their “faculty members to make their research freely available through open access journals and to resign from publications that keep articles behind paywalls,” (Sample, 2012, para. 1) in the hope that other libraries would follow suit. As Robert Darnton, the then University Librarian of Harvard Library explained, “We all face the same paradox. We faculty do the research, write the papers, referee papers by other researchers, serve on editorial boards, all of it for free ... and then we buy back the results of our labor at outrageous prices” (Sample, 2012, para.7). A recent Ithaka S+R study found that about half of the library directors responded indicated that they would “likely cancel a major journal package in the next five years” (Schonfeld, & Wolff-Eisenberg, 2020).

On University of Washington Libraries' webpage on their OA policy, one of the rationales for having the policy is to serve as "a catalyst for change in scholarly publishing," and it cites that "under the current unsustainable publishing model, journal prices have increased at 5 times the rate of the Consumer Price Index within the past 15 years" as one of the reasons for the need to change (2020). While libraries' struggles with the rising costs of acquiring scholarly journals seems to be an initial driver in the desire to change the scholarly communication business model, what role did it play in the creation of institutional OA policies?

As research-intensive universities contribute to and consume scholarly research and are publishing more heavily than other types of higher education institutions, this study seeks to explore how selected United States R-1 universities advance OA at the institutional level, by investigating the initial factors that led to the creation of their institutional OA policies.

LITERATURE REVIEW

Academic libraries and universities have been working on a sustainable scholarly communication system in a variety of ways. For example, the number of institutional repositories, "digital collections capturing and preserving the intellectual output of a single or multi-university community," (Crow, 2002, p.4) has increased in the United States from 398 in 2012 (Pinfield et al., 2014) to 587 in 2019 (OpenDOAR Statistics, 2019). Florida State University cancelled their libraries' "big deal" bundle contract with Elsevier in 2018, because they felt they were being charged too much (McKenzie, 2018). More recently, and with much more at stake for both the publishers and the universities, the ten-campus University of California (UC) system cancelled their fifty million-dollar subscription contract with Elsevier after failing to agree on terms of a "read-and-publish" deal that the UC pursued, which could offset the cost of open access publishing against the cost of access to subscription content with the hope to "help publishers accelerate open-access publishing and eventually eliminate paywall" (McKenzie, 2019, para.4).

However, as Armbruster discussed the first-generation OA policy development, he argued that "the so-called serials crisis, with steeply rising prices for an ever-increasing fleet of journals may explain why libraries invest in open access, but this issue was central neither to the Budapest Open Access Initiative nor the Bethesda Statement on Open Access Publishing nor the Berlin Declaration on Open Access" (2010, p.4, para 2). He also noted that while publishers and libraries have their own agenda and are certainly key stakeholders in open access, their influence is indirect. It is actually the research institutions, such as funders and universities that drive forward the implementation of OA policies (2010).

OA is appealing in several ways over the traditional subscription-based publishing. Research, especially scientific research, is primarily funded by public money, so the results ought to be public goods (Björk, Laasko, Welling, & Paetau, 2014; Wolpert, 2013), and

the public should be able to access them without barriers. The immediate availability of research results could advance knowledge in a more efficient manner, increase the impact of research (Willinsky, 2006, p. 111), and help researchers in developing countries become more effective members of the global research community, as well as help global research find local applications (Dickson, 2012). However, it must be noted that while OA in general could help researchers in developing countries access scholarship, some types of OA, such as gold open access, which requires the author to pay an article processing charge (APC), could limit the contributions from scholars without the means to pay, such as many of the researchers in developing countries.

A number of studies have shown that faculty were aware of OA publishing in their fields (Rodriguez, 2014; Kaba & Said, 2015; Yang & Li, 2015). Research funders have begun promoting and advocating for this new model of academic publishing. As a result, research libraries and universities began negotiating transformative agreements, which “shift the contracted payment from a library or group of libraries to a publisher away from subscription-based reading and towards open access publishing,” (Hinchliffe, 2019) and developing their own OA policies to encourage their faculty to make their research available.

Xia et al. cited two benchmarks that drove US universities to adopt OA policies: “the passage of the Consolidated Appropriations Act of 2008, which instituted a mandate for research projects funded by the National Institutes of Health (NIH), and the Harvard Faculty of Arts and Sciences’ decision in February 2008 that established a compulsory mandate for their program” (2012). Universities began to develop and implement institutional OA policies to encourage and/or require their faculty to make their “published, peer-reviewed journal articles OA by self-archiving their final, peer-reviewed drafts in a freely accessible institutional or disciplinary repository (‘Green OA’) or by publishing them in an Open Access journal (‘Gold OA’) or both” (Open-access mandate, 2019). According to the Registry of Open Access Repository Mandates and Policies, there are 57 US university institutional OA policies as of April 7th, 2019, with Cornell University being the earliest adopter of an institutional OA policy in 2005 (Welcome to ROARMAP, 2019). According to the Carnegie Classification of Institutions of Higher Education, there are 131 R-1 universities and 135 R-2 universities (2019). With only 57 institutions with OA policies at this point, the majority of the R-1 and R-2 universities still have to decide whether to develop such policies for their institutions.

The biggest criticism of US university policies is that they are generally not enforced policies, and many allow faculty to opt-out of the policy. “There is no strong incentive for researchers to comply with institutional mandates,” unlike complying with the funder’s mandate which could affect the research funding (Khalife, 2018, para. 8). A large-scale analysis showed that about two-third of funder-mandated articles were free to access, and the compliance rates

depended on the funders and the disciplines and they are increasing (Larivière & Sugimoto, 2018). Anderson called institutional OA policies “a much more mixed bag” as compared to funders’ mandates (2014, para 3), and argued that “some institutional policies are more powerful than others, and in general, institutional policies in the US tend to be more ‘institutional preference’ rather than mandates (Anderson 2014). If these policies are simply institutional preferences, then the rationale of initiating and developing such policies require further exploration. Anderson questioned what effect US university policies have, as they are less powerful than other kinds of policies (such as funders, or policies in Europe). He came to the conclusions that “they offer a relatively low-cost and very low-risk way for an institution publicly to affirm its support for the idea and the ideals of OA” (2014, para. 7).

A limited number of studies aimed to evaluate the effectiveness of institutional OA policies. A study by Huang, et al. found that UK universities had the highest performance in terms of green open access in 2017, but few US universities appeared in this group. The authors believed that “while the National Institutes of Health mandate has been very effective at driving open access to the biomedical literature, limited inroads have been made into other disciplines in the US context” (2020). However, in another study, Xia et al. found that there was a positive impact on self-archiving rates after OA policy implementation at US institutions (2012).

To develop an institutional OA policy is a considerable undertaking that would require the buy-ins of both administrators and faculty. While there are a small number of case studies or articles on best practices on the implementation of institutional OA policies (Armbruster, 2010; Duranceau & Kriegsman, 2013; Gilbert, Kingler, & Kullman, 2011; Kipphut-Smith, 2014; Kipphut-Smith, et al., 2018), there is a lack of in-depth research on the significant factors in the initiation and the practical purpose of institutional OA policies. This qualitative study sought to explore the factors that drove such undertaking. The results might be able to help stakeholders in strategizing the development of the policies, as well as increasing the impact of the policies.

METHODS

A crucial element of the study was to identify R-1 universities that have implemented their OA policies for at least 5 years (since 2014). Five years is the minimum requirement, because the scholarly publishing process often takes 9 to 18 months from the submission of article to publication. Therefore, 5 years would present a reasonable time frame to begin reflecting on these policies. R-1 institutions were specifically selected because they represent the institutions and faculty with the highest expectation in research and publication output. An OA policy would be more impactful to the faculty at these institutions with high research activities than at other types of institutions, such as liberal arts colleges or teaching-focused institutions.

A list of US universities that have OA policies/mandates/statements was compiled from The Registry of Open Access Repository Mandates and Policies (ROARMAP), “a searchable international registry charting the growth of open access mandates and policies adopted by universities, research institutions and research funders that require or request their researchers to provide open access to their peer-reviewed research article output by depositing it in an open access repository” (2018). As of April 2019, there were 57 policies. From this sample of 57 policies, the institutions were categorized by their Carnegie classifications (See Table I). As ROARMAP may not have 100% of all policies, the researcher cross-referenced lists compiled by other entities, such as the one by MIT Libraries (2019). Among them, 30 had OA policies that had been adopted for five years or more. Out of those policies, there were 14 institutional OA policies at R-1 universities. R-1 institutions represented about half of all institutions that had adopted OA policies. Where the two earliest adopters were private R-1 institutions, there were more than double the number of public R-1 than private R-1 institutions that had adopted OA policies.

Classifications	Number of institutions	Percentage (out of 57 institutions)	Number of institutions that adopted OA policies in or before 2014
R-1 Public	19	33%	7
R-1 Private	9	16%	7
R-2 Public	4	7%	4
R-2 Private	0	0%	0
R-3 Public	0	0%	0
R-3 Private	2	3.5%	2
M-1 Public	5	8.7%	1
M-1 Private	1	1.8%	1
M-2 Public	0	0%	0
M-2 Private	0	0%	0
M-3 Public	0	0%	0
M-3 Private	1	1.8%	1
Baccalaureate Colleges - Public	0	0%	0
Baccalaureate Colleges - Private	15	26%	9
Special Focus Four-Year: Faith-Related Institutions	1	1.8%	0

Table 1. Breakdown of Institutions that Have Adopted Institutional Open Access Policies

Sites Selection

Out of the identified 14 R-1 universities that have implemented institutional OA policies for at least 5 years, the researcher selected two institutions for in-depth studies. The reason for studying more than a single institution was because the answers to the research question might be influenced by factors unique to the institutional culture and priorities. The institutions were selected based on the following criteria. The first criterion to consider was the percentage of state appropriation, i.e. taxpayer money, the institutions received. The higher the portion of the revenue coming from state funding, the more likely the institutions might perceive their responsibility to “repay” taxpayers by sharing research. Even though all research institutions receive some levels of governmental grants for research, public institutions generally receive a higher portion of their revenue from state appropriation. This narrowed the sample size to 11 public institutions. These 11 institution’s state appropriations consisted 17-20% of their annual revenue. The second criterion was the effective date of the institutional OA policies. An earlier effective date of the policies would give the institutions more time to implement and refine its strategies. The two institutions selected had the earliest policy effective dates.

Participants Selection

The criteria used to select interviewees include: (1) Their position. Interviewees with different job functions, such as administrators, faculty from different disciplines, and librarians, were sought in order to provide broad perspectives; and (2) Involvement in their institutions’ OA movement. Those who were involved in the creation and development of the OA policies and those who had responsibilities to support OA were especially sought out. A “chain-referral” sampling, which is a non-probability sampling method, was used to recruit the participants. First, the researcher contacted the deans of the libraries of the two institutions and asked them to refer to the administrators, faculty, and other stakeholders who were involved with their institution’s OA efforts. Senior administrators who had been involved in OA, faculty from different disciplines, and librarians whose positions were OA-related were especially sought.

The researcher spent 2-to3 days at each site to allow for sufficient time to interview the participants. There were two participants who were not available in person during the site visits, and Zoom video interviews were conducted instead. In total, 15 interviewees were conducted (see Appendix B). The researcher received the participants’ consent to audio record the interviews. A transcription service was used to transcribe the interview recordings.

RESULTS

Two sites were selected for the study. One of the selected institutions, Magenta University (not the institution’s real name), is a flagship state university that belongs to the prestigious

Association of American Universities (AAU). The flagship status of the institution means that it receives the highest level of funding support from its state government and taxpayers, and its membership in the AAU signifies the high quality of its research and scholarship. This institution was the first public institution to develop and adopt an institutional OA policy in 2009.

The other institution in the study, Juniper University (not the institution's real name), was selected based on its early development and passage of their institutional policy; it was the first public university in its state to adopt such policy in 2012. This institution achieved R-1 status in 2016. In fact, it climbed the Carnegie's rankings from R-3 to R-1 in just 25 years. Juniper University occupies a different segment on the R-1 ladder than the AAU member Magenta University; it is not as established in research or reputation. Its main institutional goal moving forward is to solidify its status as a R-1 institution. Its strongest disciplines tend to be in the arts, unlike Magenta University's strong professional and sciences research foci.

The passage of an institutional policy such as an OA policy requires the approval from the provost or the president, as well as the faculty senate. Therefore, the rationale of creating an OA policy must be understandable and reasonable to those stakeholders. The researcher sought to understand what factors were used to convince those stakeholders. While the two institutions were different in their locations, rankings, and profiles, several common themes emerged from the study.

The Duty to Disseminate Knowledge Widely

The most common factor cited by all participants at both in institutions about why their institutions should advance OA was their belief in that knowledge should be disseminated as widely as possible. And there were two main sub-themes shared by the participants. One was the belief that OA is beneficial to research and the other factor was a sense of moral or ethical obligation as a public institution to share their research with the public.

As a state institution, the Associate Dean at the Magenta University Libraries believed that their job was to advance knowledge and research. The state appropriations might have shrunk but the institution "was still being funded by the state and the people of the state." There is an obligation to disseminate the research. With so many of those data sources locked behind paywalls or might come in a different licensing, scholars are impeded from doing those emerging works. The Dean of Libraries thought that Magenta University especially has more of a commitment to the social justice aspect of open access than he has encountered elsewhere. "I think there's a real awareness of that at [Magenta University] and a desire to democratize access to science," he said. "There was kind of a social justice emphasis built into [the state's] core, into [the state's] DNA if you will." Though Magenta University is located in a conservative state, the state is also very "egalitarian." The need to

give the public access to the very research that they were paying for was certainly one of the initial drivers in promoting OA at Magenta University.

While the interviewees at Juniper University generally believed that knowledge should be widely disseminated because it would be beneficial to the impact of the research, many of them also expressed that it was the duty and responsibility of the institution to do so. The Dean of Libraries explained, “We receive a lot of government funding. We receive funding from all kinds of places to do our research. Why is it then locked down for only people who can afford to get it? Everyone should be able to get to this information.” The head of collection development at the Libraries added, “I feel very strongly about our mandate to provide the benefits of scholarly work to everyone—all taxpayers, all students—everybody.”

These two motivations were illustrated in the introduction section of the original 2012 OA policy:

As a public research university, [Juniper University] recognizes and values its responsibility to the larger society. Scholarly products—the innovations, scholarship, and creative endeavors of its faculty, and the education provided to its students—benefit the communities the university serves. By providing access to scholarly works, Federal, State, private, and public support of research and scholarship will be enhanced at [Juniper University].

The Assistant Dean at the Libraries explained that information could be disseminated essentially for free online, and it was their responsibility to make it work. In the past, the printing and distributing of journals was a major expense for the publishers, and therefore it made sense that it would cost subscribers. As technology has advanced to a stage where no printing is needed for journals and the Internet allows for essentially free distribution, it did not make sense for the institution to stubbornly stick with “models that were built around the print world and scarcity of information.”

Although this was a simple explanation of e-resources, there was a sense from many of the interviewees that it was also something that not a lot of people outside of the library field had thought about or were aware of. An analogy used by one of the interviewees was comparing the journal model to the change in the music-purchasing model. The traditional model of print journals was deeply rooted in academia, that most faculty still thought of journals in terms of volume, issues, and page numbers. Just as when compact discs transitioned to the iTunes model of online, individual song purchasing, it took some time for the industry to adjust to the new model. Therefore, the original 2012 Open Access Policy stated that the Juniper University community “are expected to take advantage of new technologies to increase access to their scholarly works among scholars worldwide, educators, policymakers, and the public.”

The Impact of Open Access Research and Faculty Perception

While the research on OA was not as plentiful before 2012, when Juniper University adopted their policy, the two faculty members who were instrumental in the policy development were already convinced back then that OA could have direct benefits to researchers and their research impact. However, all interviewees expressed different levels of doubts about how much those outside of the OA advocates circle trust that their research could benefit from OA. This would later prove to be one of the obstacles in persuading stakeholders in adopting OA in their own practice.

The impact of research, including more visibility, leading to more collaboration, research funding, and higher citation, was what mattered the most to the provost at Juniper University. The institution's mission to "have the best research reaching the widest audiences," could be achieved in a variety of ways, including both traditional "closed" journals and OA journals. Therefore, unless OA could demonstratively increase the Juniper University faculty's research impact, then it would not likely garner great support from the senior administration. At Juniper University, most participants believed that their provost was relatively supportive of OA, without it being one of her top priorities.

The current Dean of Libraries at Juniper University was forthright in her thoughts on the inherent problems she saw in OA. The faculty who were being hired into tenure lines today and must go up for tenure in 6 years are under the exact same constraints as the ones hired 30 years ago, in terms of needing to publish in the most high-impact factor journals. They just did not think OA had anything to do with them. The dean believed that those who already had tenure and job security were the ones who could actually advance OA. One of the faculty who helped create the policy agreed that asking faculty or the administration to do it based on "a moral or ethical, political" reasons would be a losing battle.

The situation was drastically different at Magenta University. When discussing why their institution should advance OA, almost all of the interviewees at Magenta University demonstrated a nuanced understanding of the multiple factors by acknowledging that there are both philosophical and pragmatic reasons. One of the primary reasons was to share scholarly research, which was for the greater good. But on a more pragmatic level, it would also enhance the visibility of the research of the faculty staff and students, and therefore their research impact. There were librarians, physicists and some scientists who were advocating change in the late 1990s, but Provost S was unique in the country at that time for being a high-level executive and an advocate for change.

Then the movement began to trickle down. The Magenta University Libraries became a driving force, with the help of the senior administration. Positions such as Associate Dean of Scholarly Communication were created. The institutional repository was created in 2005.

Then more efforts, training, and hiring happened in the Libraries to have the people to do outreach and to get faculty to use institutional repository. Then they needed frontline people to start talking about OA. While Provost S drove the initial process, it was the Libraries that carried it forward. By the time Provost S left in the mid- to late-2000's, the then Dean of Libraries was becoming more well informed and picked the OA efforts up. Provost S and the previous Dean of Libraries “overlapped a little bit.” The then Dean of Libraries “took the baton and then started to try to work to get all of their senior administrators around the campus interested but bringing them along.” The movement eventually led to the development of the institutional OA policy.

The Unsustainability of the Scholarly Communication Model

Almost every interviewee at both institutions commented on the rising cost of journal subscriptions, and the libraries' balancing act of providing access for their faculty to these journals. It was one of the main factors that drove the initial conversations in changing the scholarly communication model, which led to the discussions on open access and the development of the policies.

For Magenta University, the former Provost S in the 1990s, along with the then Dean of Libraries discussed the serials crisis. Provost S, who was an economist, understood that the scholarly communication system was not sustainable and became a national advocate for change, even if the term “Open Access” was not used until the early 2000s. Gradually, the institution grew in its understanding of the concept and Magenta University has been committed to advancing OA since. By the mid- to late-2000's, there were greater movements in the Libraries to advocate for “the great democratization of knowledge.”

Juniper University Libraries' budgets was funded 100% by student fees. Unless there was an increase in enrollment, they would have a flat budget. The budget has shrunk with the recession. There was a 4-year period where there were “terrible budget cuts.” The Head of Collection Development did not think that the Libraries was “funded at an R-1 level for the material's budget.” In addition to the flat or shrinking budget, there was a general agreement from the interviewees that the commercial publishers are making an “unholy amount of money.” The Head of Collection Development, whose main job responsibility was to plan the coordinated selection of materials for the Libraries to purchase, was especially critical of the publishers. She pointed out that the publishers took advantage of the free labor that academics provided for them, and it was a very unfair situation. The sentiment was shared by other stakeholders at Juniper University.

It must be noted that while the rising cost and the libraries' financial struggle were mentioned by the interviewees as the original catalyst for the discussion of OA, it did not seem to be a central topic of discussion once the conversations had moved to the development

of OA policies. Multiple interviewees commented that the serial crisis was important to the librarians, it was not nearly as critical to the faculty, and therefore not a central issue for their consideration on OA policies.

DISCUSSION

Three factors emerged from the study: The dissemination of knowledge, the impact of OA research, and the unsustainability of the current scholarly communication business model. This general finding is consistent with the literature review. OA is perceived as a way to increase the dissemination of knowledge, to increase the impact of research, and a possible solution to change the current scholarly communication system in which commercial publishers have the power and leverage to set prices that are out of reach for libraries and institutions.

However, the findings indicate that although there were three primary factors that drove institutions to advance OA, thus creating OA policies, the two institutions in the study do not necessarily frame them in the same way to articulate their purpose of advancing OA. Officially, both institutions emphasize “dissemination of knowledge” over the other two as their primary rationale and purpose to advance OA. Both policies stress the importance of the dissemination of knowledge as the reason to advance OA. Juniper University’s policy states that it intends to provide “the broadest possible access to published works of scholarship” of their faculty; while the purpose of Magenta University’s policy is to share “the intellectual fruits of [the institution’s] research and scholarship as widely as possible and lowering barriers to its access.”

A wider and more open dissemination of the institution’s research cost could affect their faculty’s research impact, which could then affect the institution’s reputation, rankings, classifications and funding. For example, as Juniper University looks to solidify their R-1 status, and Magenta University looks to advance in their AAU standing, their faculty’s research output and impact would be important factors. The Provost of Juniper University admits, OA is “not the leadership’s main focus,” but “it would make sense to emphasize its benefits to research impact.” However, though this factor was talked about by the interviewees, it was not officially stated in the policies or related webpages as a rationale for the development of the policies.

While librarians and some faculty wanted open access due to the cost of journal subscriptions and thus wanted to change the scholarly publishing model, it was actually not the most important or even relevant factor for the majority of faculty and administration. It is the role of the libraries to negotiate prices with publishers and pay for the access to the journals. An interviewee talked about how most faculty did not feel “the pain” of having to pay the publishers, and thus did not realize that it had come to a point where their institutions

could not afford to pay for all the journals they need. As mentioned by several interviewees, a faculty's priority is to publish in and have access to the journals and other scholarly resources that help them achieve tenure and promotion. But with efficient interlibrary loan and help from their own circle of peers, faculty from R-1 institutions typically do not have trouble accessing journals, even if their libraries do not subscribe to all of them. On an individual level, the "serial crisis" actually does not affect these R-1 faculty as much as faculty at less resourced places. Most faculty do not realize the unsustainability of the system, so there is not much urgency to change the business model.

Both institutions used "dissemination of knowledge" as their primary purpose to advance OA is likely because it strongly aligns with the missions of both institutions. The phrase "dissemination of knowledge" appears in both institution's mission statement documents. "Dissemination of knowledge" is one of Juniper University's responsibilities; while Magenta University's mission is to "first serves [the state], then the nation, and the world through research, teaching, and the preservation and dissemination of knowledge."

Related to the institutional missions, many participants cited "moral" or "ethical" obligations as reasons to advance OA, as both institutions are state-funded, public universities. Most participants do not believe the current scholarly communication model is fair, as the publishers are taking advantage of the publish or perish predicament faculty are in, profiting from free labor and content from faculty, and overcharging libraries (and therefore taxpayers) to access content that should be free or at least affordable. Based on the interviews, there was an obvious negative attitude towards the for-profit publishers.

Being an early adopter of OA policies also put the two institutions in good company. Participants at both institutions mentioned that being the first (or the second) public institution to adopt OA policies created a positive image and brand for their institution. It raised their reputations and prestige, as they were mentioned with elite institutions such as Harvard University and the Massachusetts Institute of Technology. The policies "offer a relatively low-cost and very low-risk way for an institution publicly to affirm its support for the idea and the ideals of OA" (Anderson, 2014, para 7).

CONCLUSIONS AND RECOMMENDATIONS

While the initial driver for exploring OA scholarly communication for both institutions was the rising cost of journal subscription, the actual factor that led to the creation of their policies was the desire to disseminate the faculty's scholarship. Participants at both institutions commented on the barriers of access to scholarship as a major factor in wanting changes, as well as their selling point to the faculty. While the intent was noble in sharing knowledge and repaying tax-payer's support, there was also a sense of good public-relations involved in wanting to pass and adopt their official institutional policies, as evidenced by

participants at both institutions mentioning the reputation boost of being the first public institution or the first public institution in its state to have OA policies, putting them in the same bracket at such prestigious universities as Harvard and MIT.

By understanding these distinctions, it would help stakeholders such as librarians better prepared to initiate the creation of policies and more importantly, knowing how to promote the ideas to faculty and administrators. Even though the unsustainability of the scholarly communication model is likely on librarians' mind, the issue is much less important to those outside of the libraries. Instead, librarians would be in a better position if they promote the idea of an OA policy as a way to widely disseminate university produced research and knowledge, thus benefiting the institution's status as well as faculty's careers. When Juniper University's provost discussed the institutional priorities, it was more about the tangible results of research impact rather than the philosophical ideal of sharing openly. Therefore, librarians should take note on how senior leadership makes decisions and align their strategies to focus on the type of results needed by the administrators. Several participants talked about the advantages of librarians partnering with faculty in their advocacy of OA. Magenta University's success of the development of policy was largely helped by some very vocal and passionate faculty and administrators.

FUTURE DIRECTIONS

The scholarly communication model and knowledge dissemination are both currently being aggressively addressed by other means. To address the cost issues, more and more major universities following the lead of the University of California system in cancelling bundled journal subscriptions. In the first 4 months of 2020, Iowa State University, the State University of New York system, University of Idaho, and University of North Carolina at Chapel Hill have all cancelled their subscriptions with Elsevier (SPARC, 2020). In the process of these major cancellations, the faculty at these institutions were informed and gradually become aware of the flaws of the current scholarly communication model. As mentioned before that there was a disconnect between faculty and the need to reduce cost of purchasing collections. This new level of understanding is reducing that disconnect, which bodes well for the advocacy and adoption of more OA.

As of October, 2020, the current COVID-19 pandemic has closed down most of the country, with over 210,000 deaths already in the US (Centers for Disease Control and Prevention, 2020a). It has forced almost all universities to adjust their mode of instruction. Major publishers (JSTOR, 2020; Project Muse, 2020; Sage Journals, 2020) are temporarily making a portion of their resource free to access in order to assist both faculty and students during this period. More significantly, data and research on combating the virus are being opened up and shared among all researchers (Centers for Disease Control and Prevention, 2020b; Elsevier, 2020; National Institutes of Health, 2020; Wiley Online Library, 2020).

We are seeing the largest OA effort to-date. Although it is difficult to predict what will happen after the pandemic, this current effort is helping to normalize open access to researchers, faculty, higher education administrators, government officials, policy makers, and the public.

An OA policy by itself might have limited power to affect an entire institution. However, these two recent developments are in effect giving these policies a major boost in what they were designed to do.

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APPENDIX A

All the interviews centered around three open-ended questions:

1. Why did your institution want to advance Open Access at an institutional level?
2. What efforts have been made by your institution in advancing Open?
3. How were Open Access policies developed at your institution?

Based on the interviewees' answers, the researcher asked follow-up or probing questions on those following discussion topics:

- The culture at the institutions, including:
 - Faculty and/or administrator's familiarity with scholarly publishing model/structure, including Open Access;
 - How Open Access was viewed by the different academic departments/disciplines;
 - The perception of the Libraries at the institution.
- The initiation of the development of institutional Open Access policies, including:
 - Who the stakeholders were and their roles;
 - The primary purposes of initiating their institutional Open Access policy.

APPENDIX A

Juniper University

Provost – Chief Academic Officer, who joined Juniper University after the adoption of the Open Access policy.

Dean of Libraries – has the authority to allocate library resources, whether to promote Open Access, such as creating positions, grants, events. Joined Juniper University after the adoption of the Open Access Policy.

Assistant Dean for Scholarly Communication – the lead to educates users about the transformation of scholarly communication and provides services meant to foster a more sustainable publishing ecosystem. Joined after the adoption of the original policy, but was instrumental in the revision of the policy.

Department Head of Collection Development – identifies appropriate scholarly resources, acquires or licenses the use of library materials. Primary activities include negotiation with vendors and publishers for books, periodicals and databases. Joined after the adoption of the policy.

Scholarly Communication Librarian –Operates the Libraries Scholarly Publishing Services and consult on copyright issues and developing data management plans. Joined after the adoption of the policy.

Assistant Professor in Learning Technologies – faculty advocate of Open Access. Joined after the adoption of the policy.

Associate Professor in Information Science – one of the initiators of the original institutional Open Access policy.

Magenta University

Dean of Libraries – an advocate for Open Access. Prior to coming to Magenta, the Dean was instrumental in the development of the Open Access policies at one of the other fifteen R-1 institutions in the original sample.

Associate Dean at the Libraries – leads team that support researchers and students throughout the research lifecycle. Units reporting to him include Digital Initiatives, and the Office of Scholarly Communication & Copyright. Joined Magenta before the adoption of the original Open Access policy.

Manager for Digital Initiatives - Manages the institutional repository, as well as the journal program that assists the Magenta community in publishing Open Access journals. Joined after the adoption of the policy.

Scholarly Communication Librarian –provides services and instruction regarding copyright and fair use, author’s rights, the use of the institutional repository. Joined after the adoption of the policy.

Director of Scholarly Communication and Copyrights - helps faculty and students learn more about the scholarly communication system in which they are stakeholders. Joined Magenta before the adoption of the original Open Access policy.

University Distinguished Professor – one of the initiators of the institutional Open Access policy. Continues to be a major faculty advocate.

Associate Professor of English - faculty advocate. Joined after the adoption of the Open Access policy.