Open Access Publishing Practices in a Complex Environment: Conditions, Barriers, and Bases of Power

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Abstract

The system of scholarly communication is a complex environment made up of various stakeholders including not only researchers, librarians, and publishers, but also academic administrators. This paper examines conditions each group faces while also noting barriers preventing movement toward open access. To further analyze interrelationships and interdependencies among groups, a discussion is presented using French & Raven's bases of power to describe how members of each stakeholder group exert some degree of power upon all other groups while at the same time being influenced, either directly or indirectly, by external forces. A better understanding of the many existing interactions and dependencies can help those who work within this system navigate ongoing changes while more successfully positioning their organizations for the future.

Implications for Practice:

- Faculty authors and librarians pursuing new research outlets and publishing strategies such as open access may benefit from more closely considering the influence of academic administrators and seeking their support.

- Information presented will assist individuals in considering how their decisions and actions are both influenced by and dependent on others.

- Information presented will assist individuals in considering how their actions may impact others and how their actions may be perceived by others.

INTRODUCTION

Scholarly communication is often described as a system—a complex environment intended to facilitate intellectual exchange through a wide variety of practices. Scholarly publishing makes up one very important part of this system and open access publishing is a specific form of scholarly publishing that has received a great deal of attention in recent years. To consider current progress of the open access movement in a way that is not limited to only one perspective, we must reflect upon the larger environment. Scholarly publishing is not just about authors. It is not just about librarians. It is not just about publishers. Therefore any discussion of the success or growth of open access publishing practices must include a discussion of the broader context of the stakeholder relationships within scholarly publishing. Many previous works focus on various issues from the perspectives of only one stakeholder group such as researchers, librarians, or publishers. This paper attempts to outline the current conditions and barriers to open access while identifying and analyzing the influences, interrelationships, and interdependencies among key stakeholder groups.

BACKGROUND

Ideas of bringing radical change to scholarly publishing are not new. The open access movement continues to gain momentum after beginning more than a decade ago. Yet, progress has been much slower than some early supporters may have predicted. Resistance to change exists largely because of the many different interests involved and wide-ranging concerns from many different perspectives.

Organizations and the individuals within them frequently evolve, or learn, as they adapt to change (Cook & Yanow, 1993). However, organizational cultures are often complex, becoming strong and reinforced over time. This is especially true when discussing the academic culture of scholarship which is strongly rooted in tradition. The environment today is somewhat similar to that of the late 1970s when some scholars wanted to improve upon standard methods for sharing their work. The National Enquiry into Scholarly Communication observed that the problems in establishing a new "system are not mainly technical; they are organizational and behavioral" (American Council of Learned Societies, 1979, p. 34).

As new changes occur, different groups and individuals will react or respond differently based on unique experiences and perspectives. Through a review of research studying how new technology impacts social environments, Restivo & Croissant (2008) point out how we often socially construct or assign meaning to certain parts our lives in response to new developments. The theory known as the social construction of technology helps explain how "relevant social groups" may have different interpretations of the meanings attached to new technology (Pinch & Bijker, 1987). Pinch & Bijker (1987) label the final stage of technology adoption as a time of 'stabilization.' However, with open access publishing, a period of stabilization remains elusive due to social and economic conflict. The works of Rieger (2008) and Guedon (2009) apply this theory of social construction of technology to the adoption of institutional repositories and further highlight some of the differing perspectives among multiple stakeholders.

IDENTIFYING KEY STAKEHOLDERS

Who are the key stakeholders in the system of scholarly publishing? Obviously, this must first include the *researchers* who produce and wish to share original intellectual contributions. Although this could include various categories of research associates, independent researchers, and scientists working for government agencies or private industries, the emphasis here is primarily on those researchers working as university faculty within an academic setting. Second, *publishers* provide the important service of coordinating the peer-review and editing process, along with the assembly and distribution of work produced by scholars. This includes both for-profit and not-for-profit publishing operations. While book publishers certainly play an important role in the scholarly publishing environment, this paper is concerned mainly with those publishers who produce journal articles. Third, *librarians* work to collect, archive, and make this work accessible. Certainly readers of academic work hold an interest in being able to access and use the knowledge produced by this system. However, this analysis does not directly address the influence of readers. It seeks to focus instead on the producers and disseminators of scholarly work.

A great deal of published research and commentary focuses on the three stakeholder groups just mentioned. For example, Xia (2010) offers a thorough review of the numerous studies focused on researcher attitudes,

awareness, and actions. The literature also provides significant coverage focusing on the attitudes or actions of librarians and publishers (Boissy & Schatz, 2011; Carter, Snyder, & Imre, 2007; Palmer, Dill, & Christie, 2009; Way, 2010). However, with the exception of a few works published over a decade ago, the literature largely overlooks the role played by another important group. This fourth group is made up of *academic administrators* who often oversee both faculty researchers and librarians. These individuals frequently supply the necessary financial and leadership support needed to bring about change or to reinforce the priorities of an institution. For the purposes of this paper, library deans and directors are not included in this category unless they also oversee other academic units within the institution.

Librarians seem to acknowledge that provosts, or equivalent administrators, are generally aware of and concerned about issues libraries are facing, especially the significant costs of acquiring and maintaining access to information resources (Jenkins, 1998; Wagner, 1995). In reality, more urgent issues often demand their attention and limit the time and energy available to address library related concerns (Wagner, 1995). In relation to the concept of open access and new publishing opportunities, Wagner (1995) observed that "the provost could be influential in promoting a shift in emphasis in the writings put forward for tenure and promotion" but it would take time to persuade faculty and review committees of the importance of such a shift (p. 45). One survey asked faculty and administrators if the "the peer-review process is as thorough in electronic journals as with paper journals" and if "electronically published articles should be counted in the tenure and promotion process" (Sweeney, 2000). Administrators seemed to generally agree that e-journal quality could be equivalent to that of more traditional print journals and were not opposed to electronic scholarship, as long as it met traditional standards for quality. Similarly, in 1995 Lancaster found that administrators generally supported the possibilities of networked scholarly publishing, but at that time did not feel a large investment of university resources could lead to the changes desired.

Since that time, the way scholars communicate with one another has changed significantly and new practices are gaining wider acceptance. In addition to online journals, researchers now frequently use many different forms of digital scholarship including reviews,

preprints, encyclopedias, data, blogs, discussion forums, and professional hubs (Maron & Smith, 2008). Some organizations have established guidelines to assist administrators and committees in evaluating the digital work of scholars. According to guidelines developed by the American Association for History and Computing, adapted from the *MLA Guidelines for Evaluating Work with Digital Media in the Modern Languages*, some steps that review committees should follow include: engaging qualified reviewers, reviewing work in the medium in which it was produced, and seeking interdisciplinary advice (as cited in Trinkle, 2004). In a more recent report the MLA Task Force on Evaluating Scholarship for Tenure and Promotion (2007) issued recommendations for tenure and promotion evaluation and recognized that traditional requirements may require modifications to reflect the changing environment.

Academic administrators, commonly known as chief academic officers or provosts, possess formal authority to take action in support of or in opposition to various issues, such as the evaluation of faculty scholarship, but their need to rely on powers of persuasion and the cooperation of others minimizes their ability to exert direct or forceful authority (Mech, 1997). Nonetheless, "provosts have always been powerful figures, especially in academic issues" (Basinger, 2003). As faculty researchers and librarians pursue new research outlets and publishing strategies they may benefit from more closely considering the influence of the academic administrators who must pursue the best interests of the institution by coordinating activities across multiple departments and disciplines.

A COMPLEX NETWORK OF RELATIONSHIPS

A complex network of relationships and interdependencies exists among researchers, librarians, publishers, and academic administrators. The diagram presented in Figure 1 is a visual display of these interactions in the context of movement toward open access. The current attitudes and actions of each group can increase awareness, result in greater actions, or can act as barriers to open access.

Faculty researchers, librarians, publishers, and administrators all influence one another, and at the same time rely on one another. Pfeffer & Salancik's resource dependence theory (1978/2003) helps explain how each group is dependent to some degree on the actions and influences of the others. In this situation, **librarians**

depend on *administrators* for financial support, rely on *publishers* as providers of content, and exist to serve the needs of *researchers*. **Researchers** expect *librarians* to purchase and provide access to current and past knowledge. Researchers also rely on *administrators* to support research activities and *publishers* to facilitate the evaluation and distribution of scholarly works. **Publishers** depend on *researchers* to supply suitable content and need *librarians* to purchase and help archive the output. **Administrators** depend on *researchers* to make the intellectual contributions that help maintain an institution's reputation. Administrators also depend on *librarians* who provide essential support to researchers. These "dependencies are often reciprocal and sometimes indirect" and patterns of interdependence often change over time (Pfeffer & Salancik, 2003, p. xii).

To reduce dependence on external groups, Pfeffer & Salancik predicted that organizations would use joint ventures or mergers, as well as marketing or lobbying efforts, to improve their position. This prediction seems to apply at least somewhat in this case as librarians, universities, and publishers are adapting to change by forming new partnerships and developing new initiatives, while concurrently exploring innovative services and business models. The Hathi Trust Digital Library and the SCOAP 3 project represent recent examples of collaboration among librarians. Meanwhile, programs like LOCKSS and CLOCKSS bring together publishers and librarians to address common concerns. It is likely that stakeholders will continue to seek out additional partnerships and pursue those that promise to be most beneficial. Boissy & Schatz (2011) provide further analysis of the publisher perspective on changing conditions and explain how publishers are evolving to remain an important part of the system.

Figure 1. Network of Relationships and Interdependencies
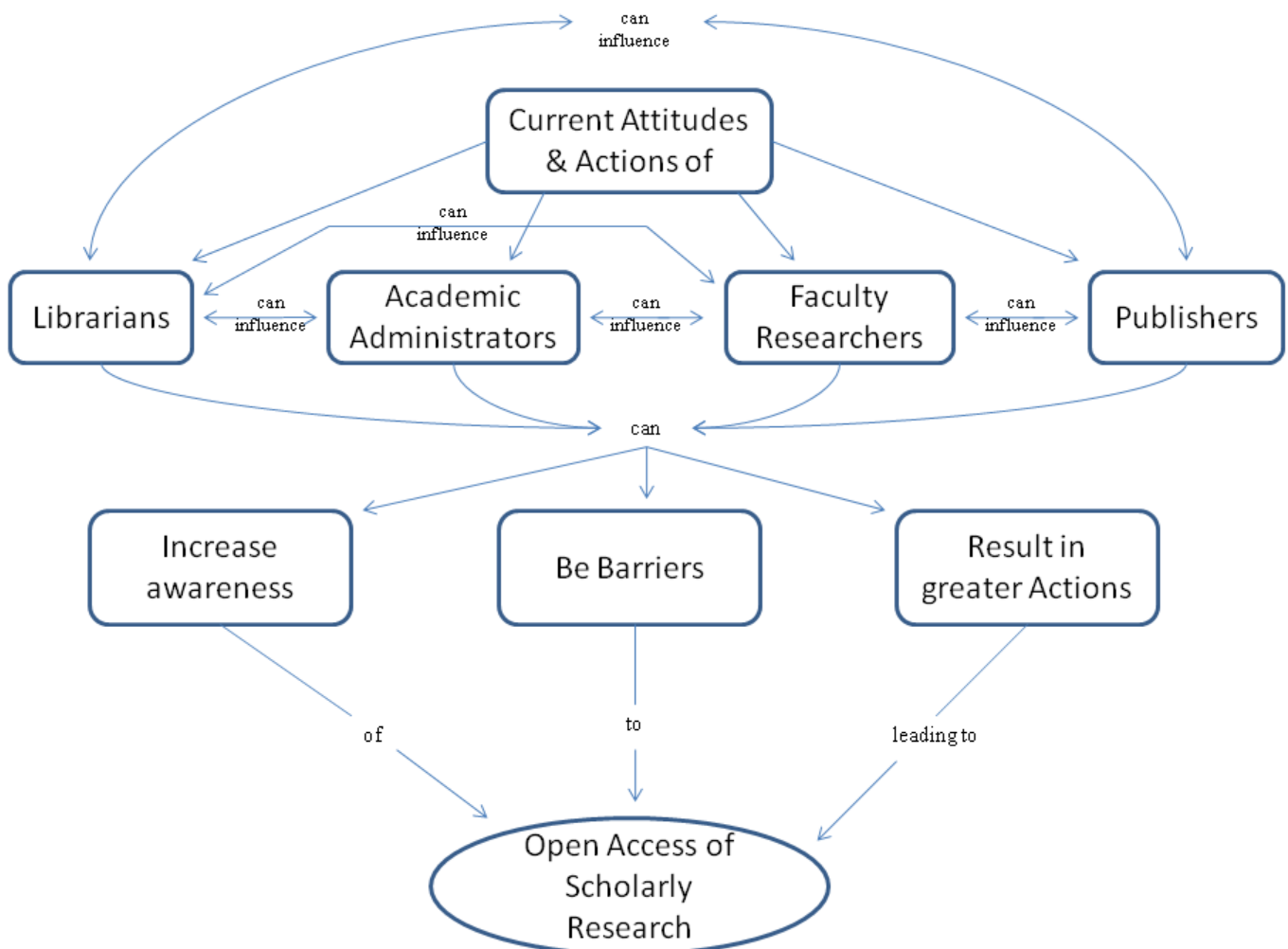
In many organizational systems a variety of social, cultural, legal, political, economic, and technological elements interact to characterize the current environment (Hatch, 2006, p.68). Scholarly publishing is no exception. Differing experiences and priorities among stakeholders can lead to a level of tension and conflict as each tries to preserve their own interests. Georg Simmel, an early sociologist, observed that this conflict does not always have to be negative as it can alert people when things are not working well and need to change (Powers, 2004, p. 162). Expanding upon Simmel's ideas, Coser (1964) explained how "conflict acts as a stimulus for establishing new rules, norms, and institutions" making "the readjustment of relationships to changed conditions possible" (p. 128). The establishment of new rules and norms is now ongoing as librarians, researchers, publishers, and academic administrators seek to form newly-collaborative or complementary relationships to adapt to the changing environment.

CURRENT CONDITIONS & BARRIERS

Before attempting to define power relationships and further analyze dependencies among researchers, publishers, librarians, and administrators it may be helpful to review some of the current conditions and barriers to open access. Some members in each of the four groups identified dedicate time and resources to further open access projects and experiments. At the same time, some members from each group also express concerns about moving too quickly and can act as a barrier by resisting change. Many of the current conditions and barriers fall into one of the key categories identified by Xia (2010) which include *attitudes*, *awareness*, and *action*. Below is a summary of current conditions and barriers to open access (See Tables 1-4). Negative conditions, or barriers, are in bold italics.

Table 1. Researchers

Attitudes	• Desire to maintain quality through peer review (Benos et al., 2007; Xia 2010)
	• Motivated to publish in high quality/prestigious journals (reward/tenure) (University of California, 2007).
	• Understanding of the benefits of electronic publishing (Maron & Smith, 2008)
	• Prefer to access journals electronically (Gould, 2010)
	• With increasing awareness, an increasing interest in maintaining control over published works
	• Increasing acceptance of open access (Xia, 2010)
	• ***Different motivations and expectations than librarians (Maness, Miaskiewicz, & Sumner, 2009; St. Jean, Rieh, Yakel, & Markey, 2011)***
	• ***Perceived lack of a need for change (Bell, Foster, & Gibbons, 2005).***
	• ***Concern about journal quality and reputation (Xia, 2010)***
	• ***Organizational cultures run deep and change often occurs slowly (Cook & Yanow, 1993)***
	• ***Uncertainty about future environment***
Awareness	• Increasing awareness of open access (Xia, 2010)
	• ***Low awareness about publishing issues and open access opportunities (Morris & Thorn, 2009; Schroter & Tite, 2006)***
	• ***Low awareness and confusion over copyright (Morris, 2009; Swan, 1999)***
Action	• Constant adjustment to rapidly evolving conditions
	• Experimenting with new forms of scholarship (Maron & Smith, 2008)
	• Service as journal authors, editors, and reviewers
	• Establishing new relationships with publishers and librarians
	• ***Continue to publish in well-established/traditional journals with expensive subscriptions***
	• ***Continued dependence on services of commercial publishers; limited impact of open access initiatives (Henderson & Bosch, 2010; Morgan Stanley, 2002)***

Table 2. Librarians

Attitudes	• Desire to acquire, organize, and preserve information
	• Desire to disseminate knowledge widely
	• Interest in providing greater access at lower cost
	• *Different motivations & expectations than researchers (Maness, Miaskiewicz, & Sumner, 2008; St. Jean, Rieh, Yakel, & Markey, 2011)*
	• *Organizational cultures run deep and change often occurs slowly (Cook & Yanow, 1993)*
	• *Uncertainty about future environment*
Awareness	• Some librarians are very aware of and interested in open access
	• *Some librarians are not aware of or interested in open access (Carter, Snyder, & Imre, 2007)*
Action	• Constant adjustment to rapidly evolving conditions
	• Development of new services to support scholarly publishing
	• Balancing of information ownership with information access (Budd, 2005)
	• Development of new services to preserve electronic information
	• Establishing new relationships with publishers and researchers
	• *Low support for open access among some librarians (Carter, Snyder, & Imre, 2007; Palmer, Dill, & Christie, 2009; Way, 2010)*
	• *Continued dependence on publishers as a supplier of information & limited impact of open access initiatives (Henderson & Bosch, 2010; Morgan Stanley, 2002)*

Table 3. Publishers

Attitudes	• Motivated to produce sufficient revenue and/or profit
	• Motivated to establish sustainable business model (Boissy & Schatz, 2011)
	• *Uncertainty about future environment*
Awareness	• Very aware of current publishing environment including open access initiatives
Action	• Constant adjustment to rapidly evolving conditions
	• Experimenting with new services & business models
	• Developing and implementing expensive new technology to support electronic storage and publishing systems (Tenopir & King, 2000)
	• Redefining relationships with librarians and researchers
	• *Regularly increasing subscription prices (Henderson & Bosch, 2010; Yiotis, 2005)*
	• *Restrict how content can be purchased and used*

Table 4. Administrators

Attitudes	• Desire to share locally created knowledge
	• Desire to increase reputation and status of the institution (Holley, 2009)
	• Not opposed to new forms of scholarship if quality is maintained (Sweeney, 2000)
	• Librarians and representatives from other academic areas must compete for university resources (Lynch et al., 2007)
	• *Organizational cultures run deep and change often occurs slowly (Cook & Yanow, 1993)*
	• *Desire to maintain institutional prestige through contributions to certain journals of commercial publishers (Holley, 2009).*
	• *Uncertainty about future environment*
Awareness	• General awareness of issues facing librarians (Wagner, 1995; Jenkins, 1998)
Action	• Constant adjustment to rapidly evolving conditions
	• May offer financial support for open access journals, author funds, or other open access publishing activities
	• May offer policy support for open access initiatives
	• Must ensure compliance with legal or regulatory requirements
	• *Power over faculty may be limited (Bensimon, Neumann, & Birnbaum, 1989; Edelstein, 1997; Holley, 2009)*

Common Conditions

A number of the conditions noted above extend across more than one group. First, researchers and university administrators wish to achieve recognition through appearances in high quality journals (Holley, 2009; University of California, 2007). Second, all groups have an interest in the efficient use and management of new forms of scholarly publishing. Researchers who understand and appreciate the benefits of electronic publishing willingly experiment with new forms or scholarship (Gould, 2010; Maron & Smith, 2008). In response, publishers develop new technology and experiment with new services and business models. Meanwhile, librarians seek to share information widely by developing services to support innovative publishing initiatives. Administrators also have an interest in the distribution of locally created knowledge and do not oppose new forms of scholarship as long as these formats maintain a high level of quality (Sweeney, 2000). Finally, all stakeholder groups must deal with uncertainty about the future and adapt to a rapidly changing environment. These changes are forcing all stakeholders to redefine or establish new relationships with one another.

Common Barriers

While not all of the common conditions across groups are negative, some are. These negative conditions can serve as barriers to widespread acceptance of open access. First, researchers producing content and librarians attempting to offer supporting services may have differing perspectives on what is needed and how it should be provided (Maness, Miaskiewicz, & Sumner, 2008; St. Jean, Rieh, Yakel, & Markey, 2011). Next, among researchers and librarians, those with a low awareness of open access or those who don't see a need for change can impede progress (Bell, Foster, & Gibbons, 2005; Carter, Snyder, & Imre, 2007; Morris & Thorn, 2009; Palmer, Dill, & Christie, 2009; Schroter & Tite, 2006; Way, 2010). For researchers and administrators, concerns about journal quality are of great importance and must be adequately addressed before open access can succeed on a large scale (Holley, 2009; Xia, 2010). Publishers also play an important role by entering into a wide range of agreements with authors, leading to confusion about copyright issues and what uses are permitted or not permitted by authors in the future (Swan, 1999; Morris, 2009). Finally, even though all groups are facing a rapidly changing environment this does not necessarily result in rapidly changing cultures. Organizational cultures tend to be complex and change slowly, as made evident by Cook & Yanow's (1993) observations of how organizations and the individuals within them "learn" or change over time. The collective actions of the scholarly community seem to favor a shift toward open access, but supporters must first minimize these barriers.

Although some observers may see publishers as strong barriers to change, many journal providers are realizing the need to offer new services and embrace open access opportunities. Boissy & Schatz (2011) explain that "though initially fearful, the publishing community is rapidly coming to terms with the OA movement" (p. 482). They highlight the open access experiments and successes of publishers such as Biomed Central, Public Library of Science, Hindawi, and Springer. In addition, "a great many societal publishers have converted to the OA model as one that is more sustainable economically" (p. 481). Sutton (2011) argues that open access can be an economically viable option for publishers by observing that plenty of businesses offer their basic product for free, allowing it to reach a large audience, but charge fees to a smaller group of customers who choose to pay for additional services. Boissy & Schatz do acknowledge challenges related to maintaining quality, managing peer-review, and archiving content in an open access environment, but expect that "publishers will continue to be a key link in the scholarly communication chain" (p. 483). Similarly, Sutton (2011) believes "that we will see new services and tools developed by publishers and others in order to meet the challenges of offering free content while remaining in business" (p. 645).

BASES OF POWER

To better understand how each key stakeholder group can influence the others, it is helpful to review five common ways an individual or group may exert power or influence over another. French & Raven (1959) describe power relationships among groups using five bases of power. *Coercive* power results from one's ability to punish or introduce negative consequences upon another. *Reward* power is similar, but is focused on one's ability to encourage certain behavior through positive reinforcement or favorable conditions. *Legitimate* power describes an environment in which an individual or group recognizes and accepts the authority of another based upon a role or formal position. *Referent* power describes a relationship in which a subordinate group offers cooperation due to a sense of respect or a desire to please. Finally, an individual or group attains *expert* power when others recognize and depend upon their knowledge or expertise.

Each group, whether researchers, librarians, publishers, or administrators exerts some power over the others through both reward and coercion. At the same time, each uses available resources and their position in the system to enjoy legitimate, referent, and expert forms of power. Each group also depends on the support of others within the system. Without the participation and contributions of all, the current system would not function adequately. By applying these bases of power to current discussions about open access and scholarly publishing we can gain a better understanding of interrelationships among groups. These interactions are identified in Table 5 (following page) and further analyzed throughout this section.

Faculty Researchers

Academia generally rewards faculty based on their ability to teach effectively, engage in scholarly research, and serve the university, the profession, and the public. Most colleges and universities operate under a traditional culture of shared governance in which faculty actively help shape the policies of the institution, especially in regard to academic issues. Because of this, faculty can exert a great deal of influence over others including academic administrators, librarians, publishers, and other faculty (See Table 6, following page). When discussing open access, faculty hold much of the power, as their actions directly impact future services offered by librarians and publishers.

Faculty researchers can contribute to an increase of open access scholarly publishing by:

- submitting work for publication in peer-reviewed open access journals or serving as editors or reviewers.

- negotiating copyright terms that favor an author's control over their own work, perhaps using an addendum similar to the one endorsed by the Committee on Institutional Cooperation (CIC) (n.d.) or the Scholarly Publishing and Academic Resources Coalition (SPARC) (2006).

- archiving copies of published work on a publically accessible website or in an online database or repository.

- encouraging other authors to consider open access publication.

- adopting policies such as those listed in Registry of Open Access Repositories Mandatory Archiving Policies (ROARMAP) that either encourage or

Table 5. Combined Bases of Power

Influence of	On	Faculty Researchers	Librarians	Publishers	Administrators
Faculty Researchers	▶	Coercive Reward Referent Expert	Legitimate Referent Expert	Coercive Reward Expert	Coercive Referent Expert
Librarians	▶	Reward Referent Expert	Legitimate Referent Expert	Coercive Reward Expert	Referent Expert
Publishers	▶	Coercive Reward Referent Expert	Coercive Reward Referent Expert	-	NONE
Administrators	▶	Coercive Reward Legitimate Referent Expert	Coercive Reward Legitimate Referent Expert	NONE	-

Table 6. Bases of Power: Faculty Researchers

Influence over:	Coerceive	Reward	Legitimate	Referent	Expert
Librarians	-	-	librarians have an official responsibility to respond to faculty needs and to provide desired services	faculty can earn respect & admiration of librarians	faculty are experts on current information sharing practices in their fields
Publishers	faculty can abandon journals where there is disapproval of publisher practices	faculty can reward publishers or journals by submitting work and serving as editors/ reviewers	-	-	faculty provide expert knowledge needed by journals
Administrators	as a group faculty can pressure administrators to act; votes of "no confidence" can show disapproval	-	-	faculty can earn respect & admiration of administrators	faculty provide expertise on current practices in their fields
Faculty Researchers	individual faculty members and/ or departmental cultures can discourage other faculty from pursuing certain actions	individual faculty members and/or departmental cultures can encourage other faculty to pursue certain actions	-	well-respected faculty colleagues can influence attitudes and actions of other faculty	more experienced senior faculty can offer assistance and advice to junior faculty

require authors to make their work available through open access.

Librarians

As with all other groups, limited financial resources pressure librarians. Rapidly changing technology and formats for storing information also lead to additional challenges. The nature of the profession motivates librarians to acquire and make accessible large amounts of information. Economic conditions pressure librarians to acquire this information at the lowest possible cost. In carrying out this work, librarians must support the scholarly work of faculty researchers and respond to the concerns of university administrators. Although librarians exert limited power over these two groups, they can provide information and advice on issues related to scholarly research and publishing. Librarians also exert a significant amount of influence over how others approach publishing issues, mainly through interactions with faculty, journal publishers, and other librarians. They can raise awareness of publishing issues and opportunities among faculty. At the same time, publishers depend on sales to librarians and, when pressured, will often work to address librarians' concerns (See Table 7).

Librarians can contribute to an increase of open access scholarly publishing by:

- serving as advocates for open access and educating faculty, administrators, and other librarians about open access issues.

- The Scholarly Publishing and Academic Resources

Table 7. Bases of Power: Librarians

Influence over:	Coerceive	Reward	Legitimate	Referent	Expert
Faculty Researchers	-	librarians make decisions about whether or not to provide access to books/journals requested by faculty	-	librarians are generally well respected and acknowledged as an important part of the institution	librarians are recognized as experts in information acquisition, organization and preservation
Publishers	librarians are some of the largest customers of publishers and can pursue other options or choose not to purchase content if considered inferior or overpriced	librarians can direct business to publishers whose content is valued and terms are considered fair or reasonable	-	-	librarians are recognized as experts in information acquisition, organization and preservation; librarians know what is needed by faculty, researchers and students librarians often provide input to publishers on information products and services
Administrators	-	-	-	librarians are generally well respected and acknowledged as an important part of the institution	librarians are seen as experts in information acquisition, organization and preservation
Librarians	-	-	supervisory librarians hold official authority over other librarians	well-respected librarians can influence attitudes and actions of other librarians	more experienced librarians can offer assistance and advice to other librarians

Coalition (SPARC) provides a number of resources librarians can use to raise awareness about open access publishing and related issues (2012).

- negotiating with publishers to provide users with greater access to scholarly research.

- developing programs and services to support faculty publishing activities.

- creating and maintaining an institutional repository where authors can make their work freely available online.

- working with faculty and administrators to develop policies and practices that support the open access model.

Publishers

Publishers of scholarly journals depend heavily on researchers who provide content for their journals and on librarians who purchase the product being sold. At the same time, the actions of publishers can influence decisions of faculty researchers and librarians. However, publishers generally have limited interaction with university administrators and therefore have little direct influence on this group (See Table 8).

Just as university administrators and librarians face a changing environment, publishers of scholarly journals must also adapt to new and challenging circumstances. These include the increasing costs of doing business and competition from alternative publishing options. Publishers also need to secure enough revenue to sustain and grow operations. They can meet this need by offering

Table 8. Bases of Power: Publishers

Influence over:	Coerceive	Reward	Legitimate	Referent	Expert
Faculty Researchers	publishers can pressure faculty to sign restrictive copyright agreements; publishers can require data or ideas to be presented in a certain way before publication	publishers can offer authors wide exposure among peers throughout the profession	-	many publishers and journals are highly respected and admired for their quality/ reputation	publishers are highly knowledgeable and offer expert assistance with editing, peer review, marketing, & distribution
Librarians	publishers have the content librarians need & can pressure librarians to sign deals for access to information; publishers often set the terms of agreements/contracts	publishers can offer incentives through better prices, products or enhanced services	-	many publishers and journals are highly respected and admired for their quality/ reputation	publishers are highly knowledgeable and offer expert assistance with editing, peer reviewing, marketing, & distribution
Administrators	-	-	-	-	-

new and valuable services while maintaining a strong reputation among academics. Through new products, services, and business models, publishers can continue to remain an important piece of the scholarly publishing environment.

Publishers can contribute to an increase of open access scholarly publishing by:

- updating products, services, and business models to support open access. See Boissy & Schatz (2011) and Sutton (2011).

- negotiating copyright agreements with terms more favorable to authors.

Academic Administrators

Earlier research reports that on 81 percent of campuses, the academic library reports to a chief academic officer, demonstrating the importance of how individuals in this administrative role have influence over issues important to librarians (Martin & Samels, 1997). Academic administrators such as a chief academic officer or provost have a responsibility to meet the needs of students and faculty in a way that ensures the institution remains academically competitive. A primary concern is that of managing budgets in a responsible way while maintaining quality and keeping costs affordable for students. These

academic leaders must balance the competing interests of internal and external stakeholders, both for the short term and long term. Ultimately, these individuals are held accountable by university and government officials, private donors, tuition paying students, and faculty.

Of all the groups considered here, academic administrators are unique in their ability to exert all five bases of power on faculty researchers and librarians (See Table 9). At the same time, administrators generally hold little direct influence on publishers as interaction between these two groups is often limited. Any influence that administrators exert on publishers likely occurs through the actions of faculty researchers and librarians. Bensimon, Neumann, and Birnbaum (1989) observed that the expert and referent bases of power are the most likely sources of power for academic leaders (p.38) and the most likely to lead to success (p.9). While academic administrators do indeed have all five bases of power at their disposal, members of other stakeholder groups prevent excessive influence by simultaneously exerting their own power over administrators.

Academic administrators can contribute to an increase of open access scholarly publishing by:

- creating university-wide committees or task forces to investigate new practices.

Table 9. Bases of Power: Administrators

Influence over:	Coerceive	Reward	Legitimate	Referent	Expert
Faculty Researchers	administrators can pressure faculty to take action through directives/policies	administrators can increase resources or remove barriers	administrators enjoy official authority in their position	charismatic leaders can earn respect of others	administrators often have broad knowledge of university operations and politics
Librarians	administrators can pressure librarians to take action through directives/policies	administrators can increase resources or remove barriers	administrators enjoy official authority in their position	charismatic leaders can earn respect of others	administrators often have broad knowledge of university operations and politics
Publishers	-	-	-	-	-

- committing specific resources toward the development and support of new and open modes of disseminating faculty scholarship.

- creating or supporting policies/procedures related to enhancing the open access of faculty scholarship.

- partnering with representatives of other institutions to publicly support open access.

  - In 2006 "provosts of the CIC publicly endorsed congressional passage of federal legislation (Federal Research Public Access Act) that would mandate deposit of federally funded research findings in an openly accessible repository." The CIC provosts separately endorsed a statement and addendum to publishing agreements that provides authors with a greater authority to decide how their work may be used in the future (Committee on Institutional Cooperation, n.d.).

COMBINING BASES OF POWER FOR GREATER IMPACT

In addition to individuals or organizations forming partnerships with others within the same stakeholder group, representatives from across different stakeholder groups may also choose to align their strengths and combine bases of power to improve certain conditions. Many opportunities exist for this type of collaboration. For example, administrators and faculty researchers may cooperate to adopt policies and practices that encourage open access publishing. Or, administrators and librarians may work together to identify sources of financial support for open access publishing services. In some cases, administrators, librarians, and faculty may all work together in pursuit of common goals. Other examples might see faculty supporting libraries and contributing to the development of open access publishing services. Similarly, faculty can provide input to publishers who are adapting to new forms of scholarship and the modern practices of authors. Finally, librarians and publishers may be able to work together to implement mutually beneficial services and business models.

CONCLUSION

Many individuals are increasingly looking for opportunities to move closer toward an open access environment. This interest is being expressed through the creation of open access journals, institutional repositories, and funds dedicated to support open access initiatives. Universities and libraries are hiring employees for new positions related to scholarly communication and scholarly publishing. Official university policies are being adopted that address the creation and distribution of scholarly work. Publishers are offering new services and opportunities.

Although this paper focuses on four of the primary stakeholder groups, additional external forces also impact scholarly publishing and open access efforts. Most significant is the influence of governmental laws and the regulations of research funding agencies. National governments and a variety of other organizations regularly fund research to benefit the public good. As a result, the United States enacted the Public Access Policy of 2008 which requires authors of all published articles resulting from research funded by the National Institutes of Health to submit a copy to the PubMed Central database within 12 months (National Institutes of Health, 2009). Congress also considered the Federal Research Public Access Act, first introduced in 2006 and reintroduced in the 111th Congress of 2009-2010, which would have enacted similar requirements for research funded by other government agencies. In other countries around the world, numerous governmental and nongovernmental agencies that fund scientific research are also requiring authors to make any published results publically available and easily accessible. The Registry of Open Access Repository Material Archiving Policies identifies more than 50 such policies classified as "funder mandates" (Eprints, 2012). However, not everyone supports such measures. Legislators in the United States have introduced measures such as the Fair Copyright in Research Works Act of 2008 and the Research Works Act of 2011 that would restrict government sponsored open access requirements. These types of developments will continue to exert some influence over how politicians, research funding agencies, publishers, and universities plan new services for the future.

For professionals playing a part in this system, it is important to understand where one fits within the context of the larger environment. Regardless of one's position within the system, at some point faculty researchers, librarians, publishers, and academic administrators will interact directly or indirectly with individuals from all other groups considered here. Just as each group exerts

power or influence, each is also dependent on the support of others. A better understanding of how one's own actions are influenced by others can help representatives from each group make more informed decisions. Similarly, it is just as important to reflect on how one's actions may impact or be perceived by others.

Future studies focusing on the roles of key stakeholders in the system of scholarly communication may benefit from observations presented in this paper. These concepts of power and dependence may also be important when considering the influence of groups, such as academic administrators, that have not been studied extensively. University administrators are the only group exerting influence on librarians and researchers using all five bases of power. Therefore, this group is deserving of further research. Finally, any further investigations of the roles or influences of researchers, librarians, and publishers will be able to provide a more thorough analysis when specific circumstances are considered within the context of the many existing interrelationships and interdependencies.

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