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Communication across the electronic resources lifecycle: A survey of academic libraries

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Communication across the electronic resources lifecycle: A survey of academic libraries

The objective of this study was to identify common communication issues that arise during the electronic resource lifecycle and identify communication strategies academic libraries are using effectively to manage electronic resources. A survey of academic librarians and staff received 240 responses and included 5-point Likert scale ratings on communication surrounding acquisitions, access, administration, support, evaluation, and renewal at their institutions. The study found that the acquisitions, evaluation, and renewal stages of the lifecycle experienced the most issues in communication, while support had the most positive responses. This article provides further discussion on the communication mechanisms used by academic institutions across the electronic resources lifecycle.

Keywords: Communication, Electronic Resources Management, Process Improvement, Academic Libraries, Electronic Resources

Introduction

The management of electronic resources (e-resources) comes with numerous complexities, cooperative dependencies amongst colleagues, and reliance on disparate systems to harmoniously work together to deliver “seamless” access. In current infrastructures many components of this work can be automated. However, these intricate networks of management spanning from acquisitions to access are reliant on effective communication, which is still very human centric. With e-resources affecting nearly every role in the library and end users, communication is a core component of the successful management of e-resources.

There are many publications discussing the management of e-resources at large, covering a wide variety of topics from unsustainable costs, managing growing collections with dwindling staff, the need for better systems and tools, troubleshooting and communication. However, the literature related to communication and electronic resource management (ERM) tends to focus on the responsibilities of an e-resources librarian, communication as it relates to a specific area of the e-resources lifecycle for example, troubleshooting; or communication as it pertains to a specific institution. As a multitude of

communication tools and mechanisms make their way into daily operations, and the profession continues to navigate the complexities of the management of e-resources, examining internal communication can serve to improve operations and ultimately end-user service.

In order to identify communication trends involving the management of e-resources in academic libraries, a survey was designed to gather information from library staff, taking into consideration position responsibilities and organizational size and type. The survey specifically sought to identify common communication issues that arise during the electronic resource lifecycle, and what communication strategies academic libraries were using to effectively manage e-resources throughout the lifecycle.

Literature Review

The application of software tools, systems, and checklists to assist with workflows are popular means of improving processes (Browning 2017; Ruttenberg 2012; Strader et al., 2006). While these tools can aid in communication throughout the electronic resource lifecycle, interpersonal skills remain essential. NASIG lists communication as one of the core competencies for Electronic Resources Librarians (ERL):

Communicating effectively, promptly, and consistently, verbally and in writing, with a broad range of internal and external audiences: users, colleagues and staff, subscription agents, and vendors; the ERL must be able to tailor the message(s) to the circumstances and to the audience, as needed. (North American Serials Interest Group, Inc. 2016)

In their review of NASIG's Core Competencies for Electronic Resources Librarians, Lawson et al. (2014) underscored the significance of written and verbal communication, further stating "All librarians must have effective communication skills and a basic understanding of e-resources workflows, even if they have no aspirations to work in e-resources management." (p.157).

ALA's Core Competencies of Librarianship also emphasized the importance of communication

across the profession as a whole, listing “the history of human communication and its impacts on libraries” and “Effective communication techniques (verbal and written)” under the Foundations of the Profession competences (American Library Association, 2008, pp. 1-2).

Further evidence related to competencies and the importance of communication is apparent in research evaluating knowledge and skill sets in the profession. A study that evaluated Australian and U.S. job ads across the library profession to detect skills and competencies found that “Interpersonal Skills and Behavioural Characteristics occur most frequently in the ads and are central categories in the analyses” (Anne Kennan et al., 2006). A recent study by Saunders (2020) examined knowledge, skills, and abilities across information professionals in academic libraries; the researcher found that writing and interpersonal skills rose to the top when evaluating core communication skills all academic librarians should possess (pp. 292-295). Saunders’ survey inquired about 53 skill and knowledge areas, which resulted in the identification of ten core skills, amongst them were interpersonal skills and writing, with the author noting that “one striking aspect of the results is that not a single technology skill was identified as core by at least 50 percent of respondents” (p. 301). While research shows that interpersonal communication skills are crucial in the workplace, DeKay (2012) found that knowledge and teaching is limited and that “organizations have not developed methods for measuring the long-term value of training” (p. 451). This is echoed in Lawson, et al. (2014) where it is noted that “communication is a salient aspect of e-resources work”, and that their LIS education provided opportunity to develop essential communication skills but lacked a course in e-resources (p. 157). Additionally, Lawson, et al. attributed the lack of having the proper vocabulary to translate issues into simplified terms as a struggle, and this gap too could be filled through an experiential course (2014).

Recent studies surface communication issues in the context of electronic resource management systems (Singley & Natches, 2017; van Ballegooie & Borie, 2015). A study of the University of Toronto Libraries migration to an e-resource management system “underlined the human aspect of electronic resource management and the importance of communication within the different departments that deal with these materials” (van Ballegooie & Borie, 2015, p. 348). It is interesting to observe that even though the focus of the study was on a system migration and knowledge-based management that communication was highlighted as a key element. Collins and Grogg conducted two surveys, one for electronic resources management (ERM) system vendors and one for librarians to capture the top priorities needed in an ERM (2011). Librarians overwhelmingly responded to the survey that workflow management was the top priority and under that category communication was explicitly listed, along with elements that facilitate communication such as resource tracking, reminders, and notifications (Collins & Grogg, 2011).

In preparations to migrate to a new integrated library system (ILS) the University of Guelph was prompted to review their e-resources workflows so they could strategically plan training, consider workflows with their new staffing levels, address antiquated workflows, and address responsibilities and communication (Brisbin et al., 2020). The ERM team at the University of Guelph adopted guiding principles and documents, noted communication skills as essential to the process to explain changes, and discuss workflows along with impact on the end-user (Brisbin et al., 2020). As the ERM team made plans to move forward and reflected on their progress they noted plans for more communication with key stakeholders concerning workflows and that communication is essential (Brisbin et al., 2020).

The literature reveals no studies looking for effective communication trends across multiple academic institutions and the entire e-resource lifecycle, as well as identifying

indicators of successful communication strategies as they correlate to each part of the lifecycle. In 2006, The Ohio State University Libraries examined communications associated with the management of e-resources across all areas of the lifecycle at their institution (Feather 2007). Feather found that the acquisition step of the workflow was in need of improved communications. She noted that recommendations, such as “updating and improving online request forms, reducing the number of individuals involved in certain workflow communications, reducing the number of inappropriate messages sent to an e-resources unit group e-mail account, spreading awareness among other staff about the e-mail clutter caused by notifying too many individuals of a problem, and encouraging library-wide staff viewing of ERMS records” could be applied to other institutions (Feather, 2007, p. 210-211). As technology and communication methods have become more advanced, it is beneficial to examine the landscape to identify areas of strengths and weaknesses.

Materials and Methods

Survey Instrument

This study utilized a mixed methods survey to investigate the following: what common communication issues arise during the electronic resource lifecycle? and what communication strategies are academic libraries using effectively? In the survey, communication is defined as internal communication, including inter-communication and intra-communication, whereas e-resources are “software applications, electronic texts, bibliographic databases, institutional repositories, Web sites, e-books, collections of e-journals” as defined by the Online Dictionary for Library and Information Science (Reitz, 2013). A survey instrument was developed and then shared with two academic librarians for review. It was then approved by the Institutional Review Board at the University of Dayton. The survey

consisted of a total of 24 questions, eight focused on demographics. Participants were asked to anonymously rate communication at their academic institution across the e-resources lifecycle on a 5-point Likert scale. The final questions asked participants if their institution experienced recurring breakdowns in communications related to specific areas of the management of e-resources, in what area they would like most to improve communications, and their overall satisfaction with communication through the lifecycle (See Appendix).

Distribution

The survey was distributed on email listservs in November and December 2019. The survey link was sent via email to the following 14 listservs: EriI-1 (Electronic Resources in Libraries), OVGTSL (Ohio Valley Group of Technical Service Librarians), OhioLINK, ALAO (Academic Library Association of Ohio), Acqnet, NASIG, ALCTS, LibRef, LibLicense, ACRL Access Services Interest Group, ACRL Library Marketing and Outreach IG, ALCTS Copy Cataloging Interest Group, Web4Lib, and Reference and User Services. These listservs were selected because they encompass a large range of topics with a focus on e-resources, acquisitions, technical services, and due to their geographic location.

Data Analysis

Survey data was exported from Google Forms to Excel, and SPSS. The data was analyzed in multiple ways. Descriptive analysis (mean, median, mode, and standard deviation) was used to analyze all responses from the Likert scale questions to gain a baseline level of satisfaction. Those responses that selected N/A were excluded from the base calculations for the analysis of that question; of 28 questions, only five included responses of N/A, the lowest response rate was 97%. Closed-ended questions geared toward understanding communication preferences, and key problem areas in the lifecycle were included and contained an open-text option, intended to capture communication mechanisms and styles not

included in the pre-set options. Many participants used this field to share information outside the intended use; this feedback was analyzed with the same methodology as open-ended responses.

The open-ended responses were coded for thematic trends, which included categories for satisfaction conveyed, areas of concerns, and successful approaches employed. Qualitative data was collected to gain greater insight into specifics that contributed to successes and challenges.

Consultations with the Navari Family Center for Digital Scholarship at the University of Notre Dame aided in the study of correlations between number of mechanisms used and satisfaction, in addition to satisfaction with e-resources communication and characteristics of the participants -- specifically looking at institution size, staff size, and position responsibilities. For satisfaction related to characteristics of participants the results were statistically insignificant; it can be inferred that either the dataset was too small to determine if there is a statistical correlation or that there is not a correlation and challenges and strategies are similar regardless of these characteristics.

Results

Demographics and Institutional Characteristics

Table 1 describes the demographic information related to roles of the participants. Most participants were full-time librarians with responsibilities in the areas of acquisitions, e-resources, collection development & strategy, and licensing. There was a relatively fair distribution amongst years of experience, with those in the categories of 6-10, 11-15, and 30+ years of experience having a slightly higher rate of response.

Table 1. Participant Characteristics (n = 240)

Table 2 depicts institutional characteristics, the majority of participants reported that the institutions to which they belong grant doctoral degrees, no category stood out as a weighty majority in the responses related to institution type, full-time enrollment and number of employees.

Table 2. Institutional Characteristics (n = 240)

Communication Across the Lifecycle

Participants were asked to anonymously rate communication at their academic institution across the e-resources lifecycle on a 5-point Likert scale. The scale used the following ratings: very poor, poor, fair, good, and very good. A non-applicable (N/A) option was provided and considered off the scale. The e-resources lifecycle was broken down into six stages according to Oliver Pesch's, "Library standards and E-resource management: A survey of current initiatives and standard efforts" (2008). The stages included acquisitions (resource trials, licensing, and invoicing), providing access (activation, cataloging, updating holdings lists, and proxy support), administration (local policies, practices, and/or procedures that facilitate the management of e-resources), support (troubleshooting and problem resolution), evaluation (overlap analysis, usage, and cost data), and renewal (decision-making regarding the continuation of a resource). Means and percentages were calculated for each question and are represented in Tables 3 and 4.

Table 3. Ratings of Communication Across the Six Stages of E-resources Lifecycle

Table 4. Percentage of Participants Selecting "Very poor," "Poor," "Fair," "Good," or "Very good"

After rating communication at their institution by stage, participants were asked to select what communication mechanisms they use. The options included email, blog, website, in-person meeting, web-based meeting, and social media. Participants could select as many options that applied and could also submit additional responses in an open text field.

Figure 1. Mechanisms Used to Communicate Across the E-resources Lifecycle

Across all phases of the lifecycle, Email received the highest score, with In-person meetings being the second most used mechanism. The open text option provided revealing results. Those who rated acquisitions communication as "very good", responded with additional communication techniques that were not seen in the lower rated responses, these included brown bag lunches, posters, outreach marketing, and e-newsletters.

The use of SharePoint tasks and project management software with workflow features were noted in the responses related to Access. Shared drives and folders to document workflows and policies were popular submissions, along with workspace tools such as SharePoint and Confluence for Administration of e-resources. There were several mentions of informal and ad hoc communication, with Administration being the only stage of the lifecycle that received these comments.

Participants shared that ticketing systems and tools, such as a LibWizard forms, LibAnswers, Jira, and ServiceNow showed useful in communicating around Support issues. Ten participants noted that providing support over the phone is still essential to their operations.

Evaluation received the highest response rate for in-person meetings across the lifecycle stages. Several responses included the need to use shared drives to distribute data. Some participants also referenced using a feedback mechanism such as a survey to evaluate resources during a trial period, which can link to both the Acquisition and Evaluation stages.

Several comments mentioned that no communication is received around renewals, unless there is a need to cancel a resource. Budget cuts and cancellations are typically the impetus for discussion around renewals, and if there is no communication, participants shared that they assume everything is renewed. Renewal received the least number of responses in the “other” category, which allowed open-text submissions of communication mechanisms. Institutions that rated their communication as “good” or “very good” are using shared document storage like SharePoint or Google Drive.

Preferences, Satisfaction, and Improvement

This portion of the survey focused on understanding more specifically what mechanisms and methods individuals preferred to communicate, where communication improvements are needed, and communication approaches that could be attributed to both successes and shortfalls. The overall preferred mechanism that aligned with participants preferred communication style was email, with 95% of participants selecting it. Many participants also selected in-person meetings as a preferred method, with 65% responses. Only 11% of participants selected web-based meetings as a preferred communication style, see Figure 2.

Figure 2. Preferred Communication Methods

When asked if their institution experiences recurring breakdowns related to specific areas of the management of e-resources, 38% (91) of participants responded, “No”, while the remaining 62% (149) responded, “Yes”. The Renewal and Evaluation phases came in as the top two responses.

Figure 3. Areas that Experience Recurring Breakdown in Communication

Analyzing the results show a correlation between the number of communication mechanisms used and the rating of satisfaction. The Spearman’s rank-order correlation coefficient between mechanism counts and levels of satisfaction was calculated, and the results signify that there is a statistically significant small-moderate positive correlation ($p < 0.001$, $\alpha = .320$) between number of mechanisms utilized and satisfaction reported. The results revealed the greater number of mechanisms used the higher the rating.

Lastly, participants were asked to share their overall satisfaction with communication around e-resources management at their institution, and to provide an explanation in an open-text field. Participants largely reported that they were “satisfied”, while the mean of the Likert scale scoring was 3.4.

Figure 4. Overall Satisfaction with Electronic Resource Management Communication

Over the collective 180 responses that indicated a rating of “Neither” or “Satisfied” 43% (78) acknowledged a need for improvement or identified dissatisfaction in their comments. None of the participants in the “Very Satisfied” category made remarks that aligned with those

thoughts. Of the 240 respondents 39 left brief comments that affirmed their rating, or included the general sentiment, “There’s always room for improvement”.

Nineteen participants contributed capacity issues, either due to vacancies or denied position requests as negatively impacting communication. Evaluation and Renewals stood out as the most challenging areas with 17 individuals. The theme that came across most often, with 32 responses, was lack of collaboration which many attributed to responsibilities spread across multiple units or departments. In a similar vein, lack of clarity around roles and responsibilities was expressed 15 times. Participants (25) expressed that there was lack of strategy in place for the evaluation of resources particularly at the time of renewal, which was often connected with rushed processes and breakdowns in communication. Commonalities were reported amongst 18 participants that their institutions were lacking strategic direction from establishing and/or maintaining policies, procedures, and/or workflows leading to ineffective operations and communication. The need to further develop one’s own expertise around managing e-resources, or the recognition that the members of their organization need support for skill development was mentioned by 15 participants. This lack of knowledge was noted as a contributing factor of inadequate communication. Participants (10) who were in the midst or recently underwent significant change acknowledged that communication during these disruptions was difficult to manage.

While there is no statistical correlation between staff or institution size and satisfaction levels, 19 participants attributed the ease and high satisfaction of communication to their small staff size. Intentional efforts to improve communication through standardized meetings, committees, procedure, policies, documentation, and/or workflows was mentioned as a positive way to impact communication by 27 participants. Clear roles and responsibilities, along with

concerted efforts to develop skills were mentioned by a handful of participants, respectfully.

Overall, the number of comments that mentioned approaches that attributed to success (56) were far less than those that expressed concern (127).

Discussion

This study aimed to understand common communication issues across the e-resources lifecycle and communication strategies that academic libraries are effectively using. Although the overall satisfaction levels across the variety of questions asked in the survey came back on the positive side, opportunities for improvement became evident in a few areas: collaboration and strategic direction in the areas of evaluation and administrative management related to policies and procedures. Lack of collaboration stood out as the most significant area that negatively impacts communication and e-resource management. This theme was often coupled with a perceived lack of transparency and frequently attributed to responsibilities for various aspects of the lifecycle being managed in different departments or units. The results found that policies, procedures, committees, or other structured models can lead to a breakdown in communication and processes if they are lacking; and facilitate communication and improve processes when implemented. These sentiments align with the results seen around the Administration of e-resources. Administration received the highest response rate for zero mechanisms in use. This could indicate that many institutions do not broadly share their local policies and procedures or that they lack documentation of their practices all together, therefore not communicating about them. Documenting tasks and information in a collaborative project management tool like Trello improved communication across the unit at the University of North Florida (Price, 2020) and could be implemented at other institutions. Using shared folders and

LibGuides are additional ways to store documents and work collaboratively. A recent survey on internal documentation found that “two thirds of libraries used either two or three tools to keep track of their internal documentation, with 38.8% (47) indicating they use three tools and 28.1% (34) indicating they use two tools” (Urban, 2020, pg. 189).

Skill development was an area where participants either self-identified that their lack of knowledge attributed to their ability to communicate effectively, or they recognized the need to grow expertise related to e-resources within their institution. Embracing an agile approach to technical services can fill in these knowledge gaps. Collins and Wilson (2018) described a shift from individual processes to a more holistic workflow in the Acquisitions & Discovery Department at North Carolina State University Libraries, finding that “when staff are responsible for multiple stages of a resources lifecycle, they become experts for entire processes, which encourages critical thinking and helps staff understand and direct change” (p. 10). This transformative approach could impact proficiency and communication across the e-resources lifecycle.

Evaluation was highlighted as the top area participants want to improve their communication in the lifecycle. Concerns about Evaluation also came out in the comments; many institutions indicated that they had no overall strategy or process. Decisions frequently occurred behind closed doors, and they would like broader input. Evaluation was also described as a "haphazard" decision made by administration arbitrarily and other institutions had no policy to allow for evaluation, with renewals being automatic and at the discretion of the administration based on budget. These disorganized and/or rushed decision-making practices can create an environment prone to gaps and breakdowns in communication. More communication around renewals could potentially increase resource knowledge and influence usage by building an

awareness of the resources that are available. The Bailey/Howe Library at the University of Vermont developed an e-resources renewal scorecard that allows them to “apply evaluation criteria, prioritize resources, and document important pieces of information in a single place” (Nuth, 2018, p.212). The use of a standardized evaluation tool such as the scorecard can aid in communication by providing a workload timeline for staff and allow for more transparency across multiple departments.

From the results, a glimpse of some common strategies that are working successfully for libraries appears. Aligning skills with responsibilities or coupling together complimentary functions was mentioned as an approach that aided in improving communications across the e-resources lifecycle. The comments revealed this approach was successfully accomplished through reorganization efforts on both smaller and larger scales, and through reassigning roles. While these may not be an option at all institutions, the creation of committees and teams to focus on communication in different stages of the workflow could have a positive effect. In addition, having a strong understanding of roles and responsibilities throughout the organization, and not only documenting processes and workflows, but making these procedures public and sharing them with other internal departments was a recurring theme.

Several participants noted that library systems still lack features that facilitate communication around the management of e-resources and have benefitted from project tools like Confluence, SharePoint, Basecamp and Smartsheet. Collaborative ticketing systems that send notifications and messaging tools like Slack were also listed as effective strategies. An ERM Unit at American University found success in adopting chat for their internal communications, prompted by necessity to accommodate partial remote work for home arrangements. In review of the implementation of chat, they found it to be an easy transition and

more efficient for certain areas, such as troubleshooting; it quickly became the preferred method for immediate and casual interactions (Fernandez et al., 2018).

The results revealed that the overall preferred mechanism that aligned with participants preferred communication style was email. Although, a highly common tool that is integrated into many facets of everyday life, email also has its challenges. A study examining email load and workload stress, found a positive correlation between the two (Stich et al., 2018). The need to carefully manage email communication is also evident in The Ohio State University case study where they made intentional efforts to effectively manage email communications by rotating responsibilities for monitoring shared email accounts and clearly stated the purpose for shared accounts (Feather, 2007). Most participants also selected in-person meetings as a preferred method, while only 11% of participants selected web-based meetings as a preferred communication style. As this survey was conducted prior to the COVID-19 pandemic, in-person meetings would have shifted due to the transition to remote work. The complex nature of analysis and confidential cost data may influence the use of in-person meetings for communicating, evidence of this was presented with a lower satisfaction rating and high utilization of in-person meetings for Evaluations.

In review of the preferred communication methods against the methods that were reported and being utilized to facilitate the management of e-resources, email, and in-person meetings remain among the top three contenders. The response only wavers slightly when it comes to acquisitions, where LibGuides was ranked second. Overall, the preferred communication methods largely match the response rate of those reported as being utilized in practice.

The findings of the survey support that the more communication channels used produced a positive outlook on the ratings. This was also reflected in a handful of comments as an intentional means to improve communication efforts. It can be implied that the same communication is making its way out through more than one mean, therefore decreasing the chance that it is overlooked or forgotten.

Lack of adequate staffing was mentioned frequently, with one participant stating that “the e-resources unit at my institution is one of the least-staffed units despite rising spending in this area”. With less staff to perform the technical elements of the e-resources lifecycle, communication is something that can fall to the wayside. The primary focus shifts to completing a practical task, such as troubleshooting an access issue or processing a renewal, but the completion of said task may not be communicated to the appropriate parties.

Limitations

The survey was intended to measure a wide range of stakeholder perspectives who use and/or manage e-resources. However, the majority of responses came from participants who have central responsibilities for the management and/or selection of e-resources.

Another possible limitation is related to the use of the term, “communication style” in the survey. The question was intended to capture what methods and mechanisms aligned with the participants preferred communication style, providing options to reflect that intention.

Conclusion

The e-resources lifecycle is made up of multiple dynamic processes that require constant and consistent communication in order for them to function effectively. From the survey results, communication issues arise more frequently during the Acquisitions, Evaluation and Renewal

stages of the lifecycle. These stages in particular involve additional data, such as budget and costs, that may be confidential or require more interactions with library or university administration. More transparency and collaboration is needed in decision making throughout these stages. Interpersonal communication training may benefit all parties involved in the lifecycle processes by aiding in relationship development, conflict management and listening and response skills.

Institutions that are communicating effectively across the lifecycle have employed multiple communication mechanisms at each stage. By communicating across many channels; institutions increase both their reach and their response rate. The methods of communication used can depend on the situation, whereas a collaborative brainstorming session on evaluating resources would benefit from a web-based or in-person meeting, a question concerning access that requires an immediate response would be better served via chat or phone call. The institutions with the most effective communication are using blended strategies; in addition to the traditional modes of email and meetings, collaborative documentation, project management workflow tools, and messaging platforms like Slack are used.

Future directions

As this survey was distributed before the COVID-19 pandemic, further research could be conducted on the shift in communications across the e-resources lifecycle due to remote work environments. During this time, web-based meetings replaced in-person meetings, while the survey responses had web-based meetings rated low in their use. With in-person meetings receiving such a high response rate, it would be valuable to conduct research to determine if other communication methods, such as web-based meetings and chat software would receive higher responses.

Acknowledgement

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Table 1. Participant Characteristics (n = 240)

	No. of respondents	Percentage
Position type		
Librarian	207	86
Support staff	33	14
Position status (include all that apply)		
Full-time	234	98
Part-time	4	2
Temporary	2	1
Other	3	1
Position Responsibilities (include all that apply)		
Acquisitions	135	56
Archives/Special Collections	19	8
Cataloging/Metadata	76	32
Circulation	31	13
Collection Development Strategy	128	53
Digital Collections	43	18
Electronic Resources	177	74
Financial (Accounting, budget, pay)	80	33
First Year Experience	12	5
Instruction	71	30
InterLibrary Loan	40	17
Licensing	123	51
Reference	89	37
Systems	60	25
Years of experience (in categories)		
0-5	31	13
6-10	43	18
11-15	41	17
16-20	30	12.5
21-25	30	12.5
26-30	25	10
30+	40	17

Table 2. Institutional Characteristics (n = 240)

	No. of respondents	Percentage
Institution Type		
Private	104	43
Public	136	57
Highest degree granted		
Associate's degree	16	7
Bachelor's degree	22	9
Master's degree	58	24
Doctoral degree	144	60
Full-time enrollment		
1-5,000	87	36
5,001-10,000	49	20
10,001-15,000	31	13
15,001-20,000	25	11
20,000+	48	20
Total number of employees (excluding student workers)		
0-5	16	7
6-10	22	9
11-20	53	22
21-30	34	14
31-40	16	7
41-50	15	6
51-60	15	6
61-70	7	3
71-80	6	2.5
81-90	6	2.5
91-100	7	3
100+	43	18

Table 3. Ratings of Communication Across the Six Stages of E-resources Lifecycle

Ratings of Communication Across the Six Stages of E-resources Lifecycle		
Question	Overall mean	Mode
How would you rate communication around acquisitions of new resources at your institution?	3.5	3
How would you rate communication around providing access to new resources at your institution?	3.7	4
How would you rate communication around the administration of electronic resources at your institution?	3.5	4
How would you rate communication around the support of electronic resources at your institution?	3.8	4
How would you rate communication around the evaluation of electronic resources at your institution?	3.3	4
How would you rate communication around the renewal of electronic resources at your institution?	3.5	4

Table 4. Percentage of Participants Selecting "Very poor," "Poor," "Fair," "Good," or "Very good"

Percentage of Participants Selecting "Very poor," "Poor," "Fair," "Good," or "Very good"						
Question	Very poor	Poor	Fair	Good	Very good	
How would you rate communication around acquisitions of new resources at your institution?	2%	9%	37%	36%	16%	
How would you rate communication around providing access to new resources at your institution?	1%	8%	28%	44%	19%	
How would you rate communication around the administration of electronic resources at your institution?	4%	14%	29%	38%	15%	
How would you rate communication around the support of electronic resources at your institution?	1%	8%	26%	39%	25%	
How would you rate communication around the evaluation of electronic resources at your institution?	3%	21%	28%	36%	11%	
How would you rate communication around the renewal of electronic resources at your institution?	5%	13%	28%	36%	18%	

Figure 1. Mechanisms Used to Communicate Across the E-resources Lifecycle

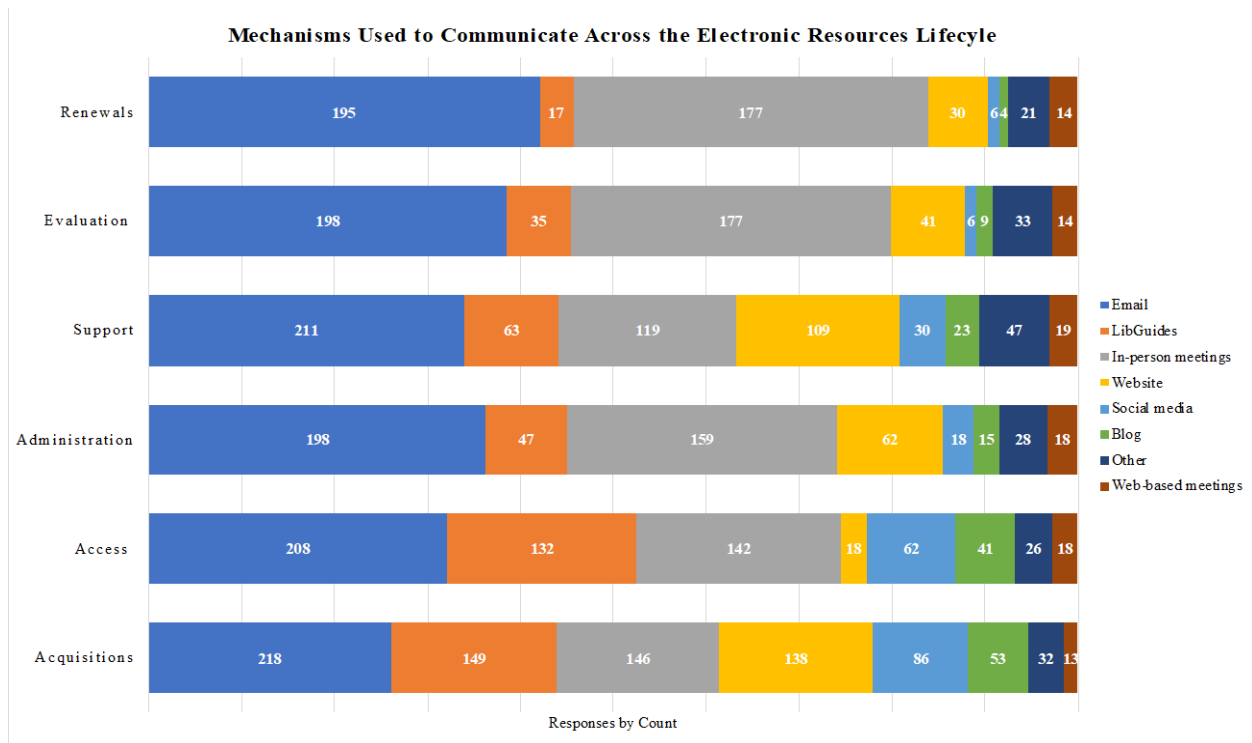


Figure 2. Preferred Communication Methods

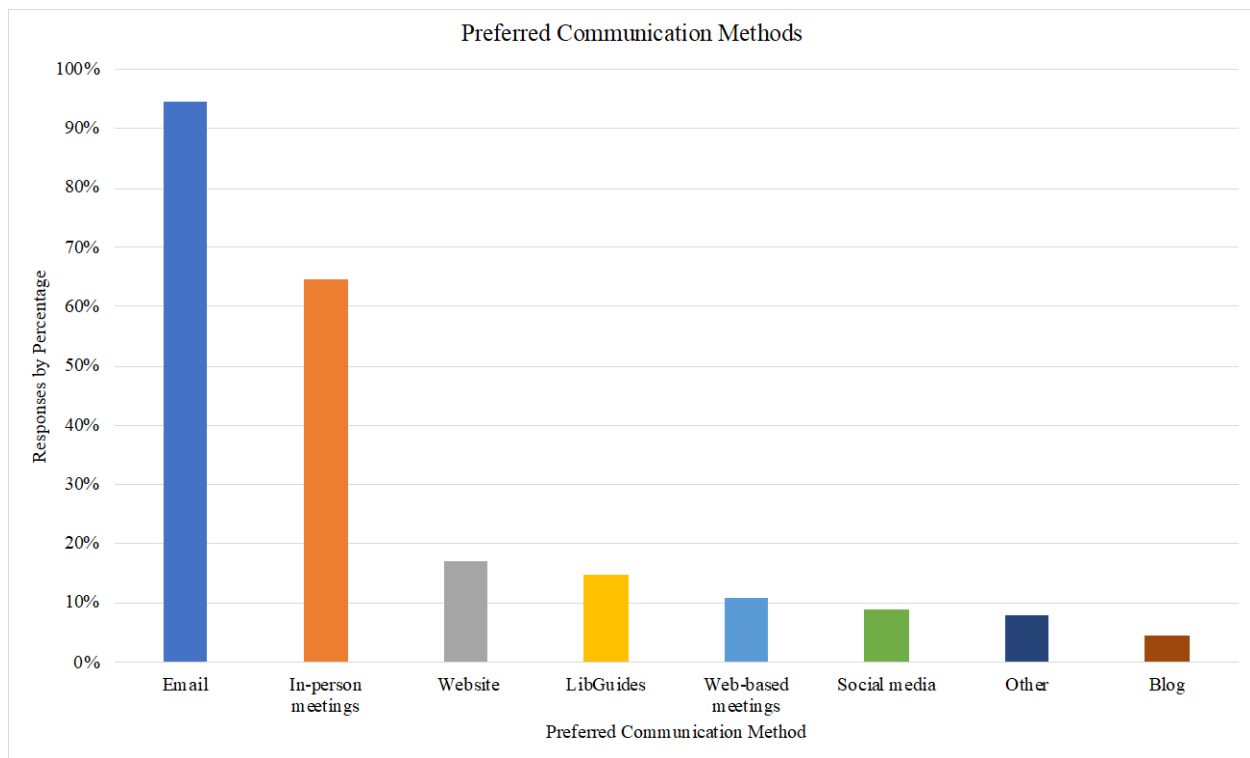


Figure 3. Areas that Experience Recurring Breakdown in Communication

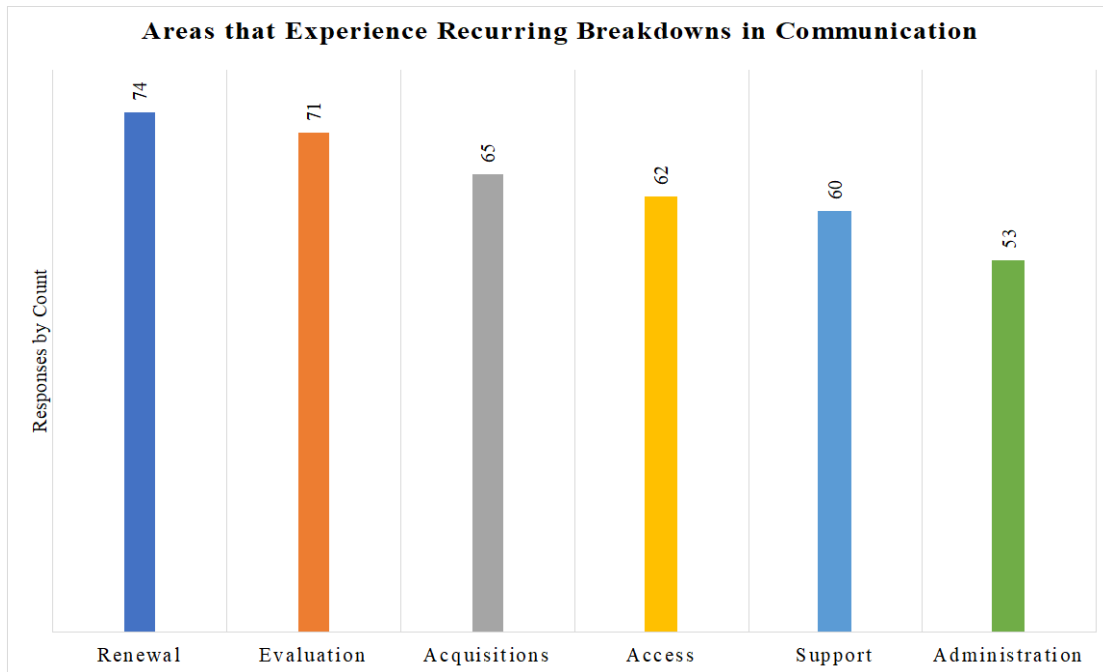
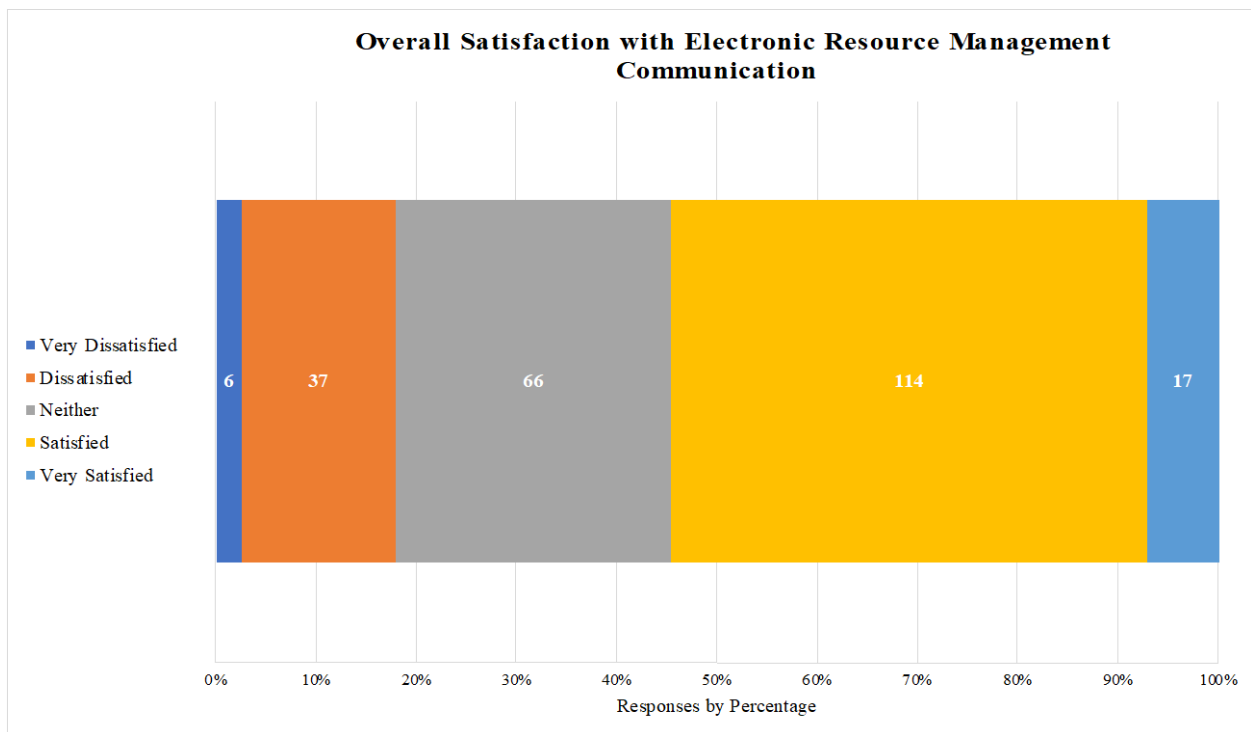


Figure 4. Overall Satisfaction with Electronic Resource Management Communication



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Appendix. Survey

Invitation to Participate in Research

Research Project Title: Communication approaches involving the management of electronic resources in academic libraries

You have been asked to participate in a research project conducted by Christina Beis from the University of Dayton, University Libraries and Jessica Morales from the University of Notre Dame, Hesburgh Libraries.

The purpose of the project is to identify communication trends involving the management of electronic resources in academic libraries, taking into consideration position responsibilities and organizational size and type. Our research will attempt to answer the following questions: What common communication issues arise during the electronic resources lifecycle? What communication strategies are academic libraries using effectively throughout the electronic resources lifecycle?

For the purposes of this study, “communication” relates to internal communication, including inter-communication and intra-communication within your institution. In this study, electronic resources include “software applications, electronic texts, bibliographic databases, institutional repositories, Web sites, e-books, collections of e-journals” as defined by the ODLIS: Online Dictionary for Library and Information Science.* The electronic resource lifecycle is organized by the following stages: acquire, provide access, administration, support, evaluation and renewal.**

You should read the information below, and ask questions about anything you do not understand, before deciding whether or not to participate.

- Your participation in this research is voluntary. You have the right not to answer any question and to stop participating at any time for any reason. Answering the questions will take about 15 minutes.
- You will not be compensated for your participation.
- All of the information you tell us will be confidential.
- Only the researchers will have access to your responses. We will not collect identifying information, but we cannot guarantee the security of the computer you use or the security

of data transfer between that computer and our data collection point. We urge you to consider this carefully when responding to these questions.

- I understand that I am ONLY eligible to participate if I am over the age of 18.

*Joan M. Reitz, ODLIS: Online Dictionary for Library and Information Science (Santa Barbara, CA: ABC-CLIO, 2013), https://www.abc-clio.com/ODLIS/odlis_e.aspx.

**Oliver Pesch, "Library standards and E-resource management: A survey of current initiatives and standard efforts," *Serials Librarian* 55, no. 3 (2008): 482.

Please contact the following researchers with any questions or concerns:

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If you feel you have been treated unfairly, or you have questions regarding your rights as a research participant, you may contact Candise Powell, J.D., Chair of the Institutional Review Board at the University of Dayton, IRB@udayton.edu; Phone: (937) 229-3515.

Demographics

1. What category best describes your position? *
 - Support staff
 - Librarian

2. Is your position part-time, full-time, or temporary? Check all that apply. *
 - Part-time
 - Full-time
 - Temporary
 - Other:

3. What areas of focus apply to your position responsibilities? Check all that apply. *
 - Acquisitions
 - Archives/Special Collections
 - Cataloging/Metadata
 - Circulation
 - Collection Development/Strategy
 - Digital Collections
 - Electronic Resources (Trials, Activation, Link Resolver Maintenance, Authentication, Support, Marketing, and/or Evaluation)
 - Financial (Accounting, Budget, Pay)
 - First Year Experience
 - Instruction
 - Interlibrary Loan
 - Licensing
 - Reference
 - Systems

4. How many years of library experience do you have? *
 - 0 - 5
 - 6 - 10
 - 11 - 15
 - 16 - 20
 - 21 - 25
 - 26 - 30
 - 30+

5. What is your institution type? *
 - Private
 - Public

6. What is the highest degree granted by your institution? *
- Associate's degree
 - Bachelor's degree
 - Master's degree
 - Doctoral degree
7. What is the full-time enrollment at your institution? *
- 1 - 5,000
 - 5,001 - 10,000
 - 10,001 - 15,000
 - 15,001 - 20,000
 - 20,001+
8. What is the total number of full-time and part-time library employees (not including student workers and graduate assistants) at your institution? *
- 0 - 5
 - 6 - 10
 - 11 - 20
 - 21 - 30
 - 31 - 40
 - 41 - 50
 - 51 - 60
 - 61 - 70
 - 71 - 80
 - 81 - 90
 - 91 - 100
 - 100+

Electronic Resources Lifecycle Communication

Acquisitions: Assessing needs, trials, licensing, invoicing

9. How would you rate communication around acquisitions of new resources at your institution? *
- Very Poor
 - Poor

- Fair
- Good
- Very Good
- N/A

10. What mechanism(s) does your library use to communicate the acquisition of electronic resources at your institution? Check all that apply. *

- Email
- Blog
- LibGuides
- Website
- In-person meetings
- Web-based meetings
- Social media
- N/A
- Other:

Providing Access: Activation, cataloging, updating holdings lists, proxy support and linking

11. How would you rate communication around providing access to new resources at your institution? *

- Very Poor
- Poor
- Fair
- Good
- Very Good
- N/A

12. What mechanism(s) does your library use to communicate providing access to electronic resources at your institution? Check all that apply. *

- Email
- Blog
- LibGuides
- Website
- In-person meetings
- Web-based meetings
- Social media
- N/A

- Other:

Administration: Local policies, practices, and/or procedures that facilitate the management of electronic resources

13. How would you rate communication around the administration of electronic resources at your institution? *

- Very Poor
- Poor
- Fair
- Good
- Very Good
- N/A

14. What mechanism(s) does your library use to communicate the administration of electronic resources at your institution? Check all that apply. *

- Email
- Blog
- LibGuides
- Website
- In-person meetings
- Web-based meetings
- Social media
- N/A
- Other:

Support: Troubleshooting and problem resolution

15. How would you rate communication around the support of electronic resources at your institution? *

- Very Poor
- Poor
- Fair
- Good
- Very Good
- N/A

16. What mechanism(s) does your library use to communicate the support of electronic resources at your institution? Check all that apply. *

- Email
- Blog
- LibGuides
- Website
- In-person meetings
- Web-based meetings
- Social media
- N/A
- Other:

Evaluation: Overlap analysis, usage and cost data

17. How would you rate communication around the evaluation of electronic resources at your institution? *

- Very Poor
- Poor
- Fair
- Good
- Very Good
- N/A

18. What mechanism(s) does your library use to communicate the evaluation of electronic resources at your institution? Check all that apply. *

- Email
- Blog
- LibGuides
- Website
- In-person meetings
- Web-based meetings
- Social media
- N/A
- Other:

Renewal: Decision-making regarding the continuation of a resource

19. How would you rate communication around the renewal of electronic resources at your institution? *

- Very Poor
- Poor
- Fair
- Good
- Very Good
- N/A

20. What mechanism(s) does your library use to communicate the renewal of electronic resources at your institution? Check all that apply. *

- Email
- Blog
- LibGuides
- Website
- In-person meetings
- Web-based meetings
- Social media
- N/A
- Other:

Satisfaction and Improvement

21. Does your institution experience recurring breakdowns in communications related to specific areas of the management of electronic resources? Check all that apply. *

- Yes - Acquisition
- Yes - Providing Access
- Yes - Administration
- Yes - Support
- Yes - Evaluation
- Yes - Renewal
- No

22. In what area(s) of electronic resource management would you most like to improve communication efforts? Check all that apply. *

- Acquisition
- Providing Access
- Administration

- Support
- Evaluation
- Renewal
- None

23. What is your preferred communication style? Check all that apply. *

- Email
- Blog
- LibGuides
- Website
- In-person meetings
- Web-based meetings
- Social media
- Other:

24. Overall, are you satisfied with your institution's communication around electronic resource management? *

- Very dissatisfied
- Dissatisfied
- Neither
- Satisfied
- Very satisfied

25. Please explain: *